

San Lucas

the president's report

carleton university

1967|8



Dean J. J. Kelly, St. Patrick's College, calls out names during the Convocation ceremony held at the St. Patrick's quadrangle in May. Bachelor of Arts degrees were awarded to 154 students and 21 students were awarded Bachelor of Commerce degrees.

The President's Report

Carleton University

Colonel By Drive, Ottawa, Ontario, Canada

Contents

Report of the President, 5

Report from the Faculties

Dean of Arts, 15

Dean of Science, 21

Dean of Engineering, 25

Dean of Graduate Studies

Report of the Dean, 29

School of Public Administration, 30

Institute of Canadian Studies, 31

School of International Affairs, 32

School of Social Work, 33

Graduate Enrolment, Day and Evening Divisions, 1967-68, 35

Fellowship Holders, 36

Theses Completed and Post-Graduate Degrees Awarded, 38

Fine Arts, 45

Extension Program, 48

The Library, 60

Report of the Registrar, 54

Enrolment, Full and Part-time, 1958-59 to 1967-68, 55

Enrolment, Full-time Day Division, 1967-68, 56

Geographical Origins, Full-time Day Students, 57

Degrees, Diplomas, and Certificates Awarded, 59

Student Affairs

Report of the Dean of Students, 62

Financial Aid to Students, 63

Off-Campus Housing, 65
Summer, Part-time Employment, 65
Student Placement, 65
High School Liaison Office, 68
Athletics, 69
Students' Association, 70
Counselling and Health Services, 73

Alumni Association, 75

Development Office, 77

Information Office, 80

Report of the Bursar, 83

Balance Sheet, 86

Summary Statement of Current Income and Expenditure, 88

Explanatory Notes to Balance Sheet, 89

Benefactions Received, 91

Gifts for Student Aid, 91

Student Aid from Endowed Funds, 93

The Staff

New Appointments, 95

Changes in Status, 97

Promotions, 97

Leaves of Absence, 98

Resignations, 99

Retirement, 100

Deceased, 100

Research, Publications and Papers, Honours and Activities

Faculty of Arts

Division I, 101

Division II, 111

School of Social Work, 123

St. Patrick's College Division, 126

Faculty of Science, 128

Faculty of Engineering, 144

Administrative Staff, 147

Report of the President

Student youth has been making world news during the past year. From many countries have come reports of student riots, building seizures, strikes, demonstrations and ultimata. In my report for 1965-66 I spoke of tensions and dissatisfactions in North American universities. It has since become clear that the dichotomy of generations in universities is not just continental, but world-wide; and that the tensions have risen in the United States and Canada.

Issues vary somewhat in different countries, and some conditions may be particular to certain universities. But it is possible to discern some main strands of student feeling that are clearly more generational than national, more related to a widespread outlook of student youth than to the situation in any given academic community. In most cases the calls for change come from only a minority of students, but a minority that is articulate, and active, and that under propitious circumstances may draw support from many others on specific issues.

It does appear that the present university system is usually found fairly satisfactory by those who decide early on working to a set goal in a defined field, whether in a specialized area in arts, or in science, or in engineering. And there is little expression of discontent from those attending universities just to get a degree of some sort that will help them in later life. But in the last several years we have seen coming to universities an increasing number of students who are different from most of their predecessors. They are products of an age of early physical maturity; of widespread weakening of old religious and moral traditions; and of enormous increase in the disseminating power of television and other popular media. The affluence of the age in which they have been brought up, and the freedom of that age from cataclysmic events have shielded their development from pressures of previous eras. They have been free to introspect and their freedom and much better access to information have

allowed them to develop more acute awareness of themselves and of their surroundings than had their predecessors. Many are more concerned with the use to which wealth is put than with the production of wealth. They have a far wider assortment of information, ideas, and questions about the world and society and earlier generations of students, but lack a set framework into which to put them. They have many queries in their minds about society and about themselves as individuals. They come to the university with great expectations of finding answers—they are often disappointed.

LEARNING

One current of feeling is that university instruction is too rigid in its prescriptions and requirements; that it tends to place the student in a passive rather than an active role; that to too great an extent it assumes students' minds are receptacles into which lecturers should pour set doses of knowledge; and that too great importance is given to examinations and grades.

There does seem to be at least a case for re-examination of what undergraduates have opportunities to study, and how they can best be helped to learn. At Carleton the need has come to be recognized; during the year the Senate established a Commission on Teaching and Learning in the Faculty of Arts to conduct a far ranging enquiry into these questions. The Commission, under the chairmanship of Professor Muni Frumhartz of the Department of Sociology, consists of five faculty members and three students, and has been given a substantial research and secretarial staff. It is endeavouring to draw ideas and observations from everyone interested at Carleton, and is examining new developments and experiments in many parts of the academic world.

UNIVERSITY GOVERNMENT

Another current of feeling is that students should have much more to say than they now do about the government of universities. Claims put forward vary greatly. Some hold that since students form a majority of the members of an academic community they should hold most of the effective power, under the "one man, one vote" principle. Others argue rather vaguely that "faculty and students" should make all the main decisions. Others call more generally for greater student participation in many more university decisions. In dealing with this subject to a limited extent the Duff-Berdahl Commission in its Report two years ago suggested that there might be student representation

on Senate and administrative committees, and mentioned the possibility of there being student members of university senates.

In the area of university government the case for a new look has become plain. A greater proportion of students are more adult in outlook and in years than a generation ago. If we mean what we say about a university being an association of people committed to learning, to acquiring and discovering knowledge, then junior members clearly should have some say in the decisions of the community, although it can well be argued that they cannot and should not carry as much weight as the senior members, the faculty, who know much more and whose careers are bound up with the community. The junior members, who are supposed to be assisted by the senior in their learning, may often have pertinent things to say about how that assistance may best be given, and have useful views about the life and workings of the community of which they form so large a part.

The need for evolution in this sphere has come to be well recognized at Carleton. The arduous process of deliberating what exactly should be done continued throughout the year. Following the publication of the Report of the Duff-Berdahl Commission a Joint Committee, including members from the Board of Governors, the Senate, the Academic Staff Association, the Students' Council, and administrative officers, has been set up to consider its findings. In its Report late in 1966-67 the Joint Committee among other things recommended that there be three students on the Senate; that there be student members of Senate committees; and that there be two students on the Board of Governors. Recommendations of the Committee on these matters went considerably further than the Report of the Duff-Berdahl Commission.

In 1967-68 the Report of the Joint Committee was considered at length by different University bodies, and there was further evolution of thought. The Board of Governors set a committee to work under the chairmanship of Mr. Louis Rasminsky. The Senate as a whole spent a number of days in full session on the subject; much help was given to it by a drafting committee under the chairmanship of Dr. W. I. Gillespie. An extremely able brief, drawn up by the Students' Council under the presidency of Mr. Bert Painter had great effect on the thinking of the Board of Governors and the Senate. In the end its main proposals regarding student participation in university government were adopted.

The new University government at Carleton provides for student

participation in decisions to an extent and in ways we believe so far unique in Canada. Students will take part in discussions and decisions in departments, where, as anyone familiar with a modern university knows, so much of the effective power resides. These elected students will also join in Faculty Board meetings on the same footing as faculty members. In the election of Senators by Faculty Boards the students and faculty members participate on the same basis, with no minimum or maximum proportion of student representation. In the same way Senate nominees to the Board of Governors are chosen by all Senators from among all of themselves, students as well as faculty. Both Board and Senate members repeatedly asked during discussions whether students would not wish to have a guaranteed number of seats on the Senate and Board, rather than to depend on the voting by bodies on which faculty members would be in a majority. The student representatives held to their view that they would prefer to have student election to the senior bodies dependent on the merits of individual students, as seen by both other students and faculty members, fully realizing that the number might vary from year to year. In the same way, although the Board of Governors plainly favoured student representation on its own membership, students maintained their preference for depending on the decision of the elections by a Senate on which there might be greater or less student membership.

The result of all the deliberations is that in 1968-69 Carleton moves into a new phase in its government that provides far more than token student participation. If students contribute as well in departments, faculty boards, committees, the Senate and the Board of Governors as they have in the discussions of the new government we can look forward to many healthy developments in the workings of the University.

EXTREMES

In the late '60's there are some students in many countries, now including Canada, who have objectives much wider than reform in university government or in conditions for learning. The more extreme radical aim at nothing less than complete change in the society around them. To this end they wish to bring about disruption of the present society, and to start by disrupting their own universities. They put forward only the vaguest of ideas about what a new society, or new university would be; and count on producing chaos, with the expectation that out of chaos something better would arise. And they

believe that their ends justify the use of any means, including force.

True universities should be communities in which all viewpoints may be openly and strongly expressed. The expression at times may take vigorous forms, including group demonstrations. But the most vociferous demonstration is quite different from any physical action that pushes other people around, or that deprives other members of the community of freedom to move or to carry out their normal activities. Such use of force is abhorrent to the essential spirit of a university.

Because of their nature as places of reason and persuasion, universities are poorly fitted as communities to deal with sudden eruptions of physical force in their midst. The calling in of civic police has become common news. Such intervention is unfortunate from at least two points of view: it is an admission that the university community cannot itself handle its own problems; and it plays into the hands of the extremists who dearly want the police to act so that they can draw more sympathetic support and have greater hopes of widening their movement. In a number of instances physical action by a group of students has been regarded as a contest of strength between them and the university administration. This should not be the situation in any well ordered university; the faculty and the main student body have vital responsibilities. At Carleton, for example, student government from the beginning has had major responsibility for student behaviour; and it is the Senate, not the President nor the Board of Governors, that has final authority for making and enforcing rules affecting students (to this point practically none have been found necessary).

"IN LOCO PARENTIS?"

In the university world these days there is also much talk about broader questions of responsibility for student behaviour. Does the university stand *in loco parentis* to its students? Or is the relationship more one at arm's length? To what extent is it necessary to have understandings about student behaviour formally set out?

The *in loco parentis* theory seems thin these days when so many actual parents are so unsure of their locus anyway, particularly in relation to older adolescents. In any case it seems unreal in a time when so many students are older in years and development than they used to be, and when so many are striving at an early age to work out decisions about behaviour for themselves.

Carleton has not an old parental, authoritarian tradition going

back to the last century as have some other universities. Its ways have other historical origins. The main body of its first full-time students was composed of war veterans. It was natural that these students worked out ways of handling their own affairs and setting norms of behaviour with the full agreement of the college authorities of the times. The tradition of wide student responsibility has persisted. A student honour and judicial system has worked with a good measure of success. Neither complicated sets of university rules, nor general provisions of the "behaving as a gentleman and scholar" type have been found necessary. Through the years good sense, and a sense of student responsibility, have prevailed.

In a time when questions such as the use of drugs on campus, or the use of force by some student groups can come up, some more concrete understandings may be found necessary. The important factor, however, will continue to be a sense of responsibility on the part of students and faculty members, and a common understanding of the spirit that must hold in a true university community.

THE YEAR IN RETROSPECT

The greatest single difference between the Carleton of earlier years and that of 1967-68 was that St. Patrick's College and the School of Social Work became fully integral parts of the University. The first year of integration seemed to meet the expectations that had been held in different quarters. Those on the St. Patrick's campus benefited from broader university facilities and support; those on the Rideau River campus—students, faculty, and administration—found they had gained interesting new colleagues and a broader set of problems and vistas. Senior people from the College and the School of Social Work added new elements to university deliberations; counsel coming from the Rideau River campus was well received, if not always fully agreed with in every respect. Small irritations seemed far outweighed by a spirit of cooperation and realization of common benefits. Much credit for the successful transition is due to Dean J. J. Kelly, Vice-Dean H. A. MacDougall of the College, and Professor Swithun Bowers, Director of the School of Social Work; and to members of the faculty and students on the St. Patrick's campus; and also Dean D. M. L. Farr and Associate Dean G. C. Merrill of the Faculty of Arts, sympathetic chairmen of Rideau River campus departments, and to people of the administrative staff who achieved a miracle rapid change in the summer of 1967.

Through the addition of the new elements and from natural

growth Carleton expanded markedly in 1967-68. Total full-time enrolment in 1966-67 had been 3,724; last year it was 5,167; on the Rideau River campus it rose from 3,724 to 4,255. Graduate enrolment continued to rise more rapidly than undergraduate, the total number of full-time graduate students including those of the School of Social Work coming to 490.

The greatest growth was in arts and engineering, each rising in enrolment by over 17 per cent. Part-time enrolment in degree credit courses continued to increase to a total of 3,497 on the two campuses. Of these 312 were students working for graduate degrees.

Full-time faculty on the Rideau River campus increased by 74 to 280, and the University total became 327. We should like to have added further to these numbers but greater additions were not possible with operating funds available in the face of needs to increase salaries, which had tended to average somewhat less than other Ontario universities, and to meet other pressing needs, particularly those of the Library. When Carleton was expanding very rapidly in the middle 1960's it was kept desperately short of operating funds for a fast developing university. (It is interesting to compare the financial provisions now made for "emerging universities" by the Province of Ontario.) One result was that the Library collection could not be built up as it should have been, while the University always devoted a relatively high proportion of the revenue it had to this purpose. Now the collection is growing at a good pace, but it is seriously too small for the quantity and quality of work going on in the University.

In 1967-68 the Library was allocated 11.5% of the operating income of the University, probably the highest proportion in the country for an established university. The needs will still continue to be very pressing. Considerable hope can be held for the development of a system of rapid exchange and common use of research materials among Ontario universities. Such a system cannot obviate the need for a University such as Carleton to have immediately at hand major stocks of books, periodicals, and microfilm material needed for study and consultation and stimulation by students and faculty members. The much wider resources of a provincial inter-university system would be very valuable for research work, but cannot meet the demands of regular studies. Properly to support work up to the Masters' level, of the kind Carleton is carrying on in 23 areas now, library resources on the spot must be very sizeable; and provisions for doctoral work must be much greater, apart from the possibility of tapping much more extensive research resources. Carleton already

has twelve doctoral programs, and should before long add several others in areas where it has requisite faculty strength where the main concern will be library resources.

CONSTRUCTION

During the early part of the year we continued in the state of uncertainty about the construction program. The Department of University Affairs still had in force the policy under which it would arrange public financing for 85% of the cost of approved academic buildings, with the universities expected to find the other 15% from private sources. Carleton, however, together with a number of other Ontario universities, would run out of 15% money from contributions. Figures made the outlook black, but we had hopes the policy would be changed, and in the long-standing Carleton tradition went ahead with projects on faith. The confidence turned out to be justified in the spring when the Minister of University Affairs announced a changed policy under which 95% of the agreed cost of approved projects would be covered by public funds, with an auxiliary building such as Unions now to be eligible for the higher support. This far-sighted broadening of government capital support made it possible for the Carleton program to move ahead to meet pressing needs.

The most important new facility coming into use during the year was the large Loeb Building for the Social Sciences, completed ahead of schedule just in time for the start of classes in September. It is probably one of the very best buildings in Canada for its purpose at the present time, and has opened new possibilities for the work of the departments housed in it.

Among other projects under construction and nearing completion by the year end were the third phase (or fourth block) of the C. J. Mackenzie Building for Engineering, the addition to the Gymnasium and an addition to the Heating Plant. Other important projects on which construction began were: the Controlled Environment Facility for Biology; an administration building; and a new residence tower with associated dining facilities. At the end of June working plans were practically complete for the new University Centre that Carleton has so badly needed for so long. Planning is now proceeding for an Engineering-Science Library, geology building, additional arts building for humanities, and the mathematics building.

GENEROSITY

Volunteer supporters and staff continued to strive to reach the three

million dollar objective for the Carleton Development Campaign. They were helped toward the end of the year by the argument that now one dollar in private contributions means twenty dollars on to the 95% government support policy. But there was still some distance to go by the summer.

The Board of Governors decided on the special appeal to help provide the 5% money needed for the University Centre. A committee set up under the chairmanship of Mr. Grant MacCarthy worked out a set of plans aimed at avoiding conflict with the general campaign. Students for several years had been contributing ten dollars per head for the cost of the future Union, the Students' Council also agreed to assist in the special campaign. Some very effective canvassing was begun by teams composed of students and businessmen supporters, and will be continued next year.

LOSSES AND CHANGES

The early summer was clouded by the death of Professor Norman Robertson, Director of the School of International Affairs. Although he had been at Carleton a short time his knowledge and wisdom, and his personal qualities, won the respect and affection of many people at Carleton, both faculty and students.

Professor H. E. English, Department of Economics, was appointed his successor as Director of the School of International Affairs.

While he was not a member of the staff of the University, many at Carleton felt a keen sense of loss in the death of Mr. Watson Balharrie, who had given so much to the architectural development of the campus. As leader of the original group of architects, and later as Chairman of the Design Review Committee, he had contributed a great deal to the Carleton of 1968.

After very full consultation and consideration, Professor Douglas Shadbolt, Director of the Nova Scotia Technical College, was appointed Director of the new School of Architecture, to begin its operations in the fall of 1968.

Professor R. A. Wendt resigned as Dean of Students to devote more time to work in the Department of Psychology. He is being succeeded by Professor V. F. Valentine, Department of Sociology and Anthropology, with the title of Dean of Student Services.

A number of important senior appointments were made to posts of full professor including: Dr. R. G. Barradas (Chemistry), Dr. Albert R. Boothroyd (Engineering), Dr. R. L. Clarke (Physics), Dr. Lotfy Fam (French), Dr. John Harp (Sociology), Dr. Henry

F. Howden (Biology), Mr. Sydney J. May (Economics), Dr. Henry B. Mayo (Political Science), The Right Honourable Lester B. Pearson (International Affairs), and Dr. Michael J. Sydenham (History).

This year the Board of Governors welcomed to its membership Mrs. E. D. Fulton, and Mr. F. E. Gibson who replaced Mr. John Ratz as an Alumni representative. It was with regret that the Board accepted the resignation of Dr. Grace Maynard.

SPECIAL EVENTS

A major event during the year was the official opening, in December, of the Loeb Building for the Social Sciences by The Honourable William G. Davis, Minister of University Affairs. The building, which is the largest on campus, provides quarters for departments of sociology, psychology, political science, geography, public law, economics, music, art, and several administrative offices. Persons taking part in the ceremony included The Honourable Mr. Davis, as principal speaker; President Dunton; Professor G. C. Merrill, Associate Dean, Division II of the Faculty of Arts; and Bertram Loeb, a member of the Carleton University Board of Governors and the Loeb Foundation. The opening ceremony, held in the Reading Room, was presided over by Chancellor C. J. Mackenzie.

Other special events included the Spring and Fall Convocations and Awards Ceremony. During the two convocations, 1,157 students received degrees, diplomas, or certificates. At the Fall Convocation the degree of Doctor of Laws, *honoris causa*, was conferred upon Mrs. Adelaide Sinclair, former Deputy Director, United Nations International Children's Emergency Fund, and Sir Philip Sherlock, Vice-Chancellor of the University of the West Indies. At the Spring Convocation the degree of Doctor of Laws, *honoris causa*, was conferred upon John P. Humphrey, Professor of Law and Political Science at McGill University; Diamond Jenness, well-known Canadian anthropologist (accepted by his son Peter); and John G. McClelland, President of McClelland and Stewart Limited.

Ninety-one entrance scholarships worth \$34,000 were awarded to Carleton and St. Patrick's College students at the annual Awards Ceremony. In addition, 232 prizes and awards were presented to in-course students.

A. D. DUNTON,
President and Vice-Chancellor

Faculty of Arts

Unprecedented growth marked the academic year 1967-68 for the Faculty of Arts. On the main campus student enrolment in the faculty increased by 13 per cent, from 2,023 to 2,384. The integration of St. Patrick's College within the University, with its new identity as the St. Patrick's College division of the Faculty of Arts, brought an additional 912 students into the faculty, yielding a combined enrolment of 3,296 students and an annual growth of 62 per cent. We hesitate to use the adjective "staggering" to describe the growth, although the temptation to do so is present, and we return to "unprecedented".

St. Patrick's College became an integral part of Carleton University on July 1, 1967. At the end of the first year it seems appropriate to comment upon the union, concentrating upon the activities of the past year and the plans for the future.

At St. Patrick's College, the academic year 1967-68 did not differ radically from previous years. Returning students found the same staff and substantially the same programs in both the day and evening sessions. The Adult Education section continued to offer a limited number of special non-credit courses.

But there were significant changes. On the academic side, students as members of a large university could choose from a wider range of courses and have access to the collections of the University Library. In some courses an exchange of professors was arranged between the Faculty of Arts on the Rideau River campus and the new St. Patrick's College division. And of some importance on the practical side of things, all St. Patrick's full-time staff members become eligible for participation in the Carleton staff welfare plans.

Some initial, though fairly important, renovations were undertaken in the north wing of the College building formerly occupied by the high school and now available to the Faculty of Arts division. Outstanding and especially valuable were the increased library budget

and the installation of a new language laboratory comprising thirty positions for class work and ten for private study.

Turning to the future, a most important task confronting St. Patrick's is the definition of its role within the University as an undergraduate college with a limited enrolment. Possible revisions of existing academic programs are under consideration in order to prepare submissions to the Commission on Undergraduate Teaching and Learning and eventually to the Senate. Taking an active part in these discussions were the members of the Aims Committee, the Faculty/Student Committee, and the special Deans' Committee. The function of a liberal arts college was the main topic discussed at the faculty/student colloquium held at the Chateau Laurier Hotel on March 7th; the main speaker was Dr. Calvin H. Plimpton, President of Amherst College.

Those responsible for St. Patrick's College in the past sought integration with Carleton University in 1967 in order to bring the College fully into the main stream of higher education, thus making available to professors and students the opportunities they have a right to expect and giving some degree of permanence to an institution established in another age. The experience of the first year under a new pattern of operation can be regarded as successful and would indicate that the proposed aims are being achieved. This experience should serve as an encouragement to students and staff, to alumni and all friends who, for years, have looked to St. Patrick's as their institution.

Expansion was the keynote of the academic year in the Faculty of Arts. Growth in student enrolment demands balancing growth in the teaching staff. On the Rideau River campus there were 144 members of faculty in 1966-67 and 181 in 1967-68, representing an increase of 25 per cent. During the year under review it was decided to make a determined effort to attract new members of faculty from Great Britain, particularly Canadian postgraduate students studying abroad. Deans Farr and Merrill spent one week in February of 1968 at the Association of Commonwealth Universities in London, where they interviewed a number of candidates for appointment to the faculty, including a substantial number of young Canadian scholars. It seems likely that similar efforts will be made over the next few years to attract such persons to Carleton University, and in so doing national objectives will be served in addition to those of the University.

Growth in number of students and members of faculty is one di-

mension of change; new methods of instruction and examination, new programs of study, and new courses represent another dimension of change. The former stems from our rapidly changing society in Canada, with increasing dependence upon university training for our young people, and Canadian universities have come to look upon such annual growth as automatic. The latter stems from a greater appreciation of the teaching function, in terms of methods and objectives, and unfortunately it is far from automatic. Towards the end of the academic year under review in this report, the Senate of Carleton University established a Commission on Undergraduate Teaching and Learning to study instruction in the Faculty of Arts, with the objective of necessary and desirable reform. The members of the Commission are faculty members and students from the Rideau River campus and from St. Patrick's College.

The Commission has broad terms of reference. It will examine general and specialized programs of study, the structure of degree programs, methods of instruction and examination, and the role of students in the conduct of their academic work. There will be no attempt to place St. Patrick's College into the Carleton mould; on the contrary, the Commission is likely to contribute to the development of a distinctive role for St. Patrick's College within the University.

This report has touched upon growth in numbers, recent changes connected with St. Patrick's College, and expected revisions in undergraduate teaching and learning within the Faculty of Arts. It is time to turn to other things, such as curricular changes that were approved during the year under review.

The Department of Sociology has been renamed the Department of Sociology and Anthropology, and a degree program in Anthropology has been approved for introduction in 1968-69. New courses in that discipline include an introduction to Anthropology, an advanced course in Anthropological Theory, and a course on Linguistic and Psychological Anthropology. The new degree program in Anthropology is the result of planning over the past several years, and it follows the appointment to our Faculty of specialists in this field. Beginning in 1968-69 students will be able to take a degree in Anthropology with six courses in the major field, and plans are underway to offer an honours program in the future.

Several less comprehensive but noteworthy curricular changes are also noted. In the past the introductory course in English for potential majors and honours students has dealt with the literature of medieval

and renaissance times, and beginning in 1968-69 it will be replaced by a course on the English literature of the twentieth century. Over the years an interest has been developing at Carleton in the general area of Commonwealth studies. In 1968-69 the Department of English will offer a new course "Studies in the Literature of the Commonwealth", which will examine in a broad and comparative way literature and environment in Australia, New Zealand, West Indies, and West Africa. The Department of Italian will introduce a new course on modern Italian literature. A new course on the Russian literature of the nineteenth and twentieth centuries will be offered by the Department of Russian, not to develop the linguistic skills of translators, but to make available the works of important Russian writers to students in other disciplines such as English, History, and Political Science. The academic traditionalists will find little comfort in a new course on computer technology as applied to problems in commerce, but traditionalists of all sorts are uncomfortable in the 1960's and the School of Commerce recognizes the need to keep abreast of developments in business technology.

There is some evidence that we are experiencing a period of "big research" in which problems of major proportions are investigated by teams of researchers supported by large budgets. Accordingly, it is pleasant to report that the research and publication fund of the Faculty of Arts continues to play a vital role in assisting individual members of faculty in research projects of smaller scope. During the academic year 1967-68 a budget of \$23,000 permitted 77 individual grants to be made. The topics of investigation carried out by members of the Faculty of Arts were varied in nature; research on Walt Whitman; computer mapping; a quantitative analysis of members of the Canadian House of Commons 1867-1963; the patterns of decorum in Chaucer's *Canterbury Tales*; the fiction of the proletariat 1880-1900; a history of the Czechs in the United States; social correlates of drinking and driving; nineteenth century writings about Acadian history, 1604-1825; Social Credit in Quebec. A modest grant offered at the right time with a minimum of administrative red tape does not necessarily produce wonders, but it helps.

The Research and Publication Fund is used for a variety of worthwhile purposes. During 1967-68 small grants of assistance were made to the following scholarly journals: *Seminar* (Canadian Association of University Teachers of German), *The Phoenix* (Classical Association of Canada), and *Canadian Slavonic Papers* (Canadian Association of Slavists). In April, 1968, the first volume appeared of *Social*

History, a new bilingual review founded and published jointly by the University of Ottawa and Carleton University, and supported by a substantial grant from the Publication Fund and the Institute of Canadian Studies.

The following persons visited Carleton during the year and met with members of the faculty and the student body:

Dr. James Reaney, Professor of English, University of Western Ontario, 20th October, 1967.

Dr. Carl F. Klinck, Professor of English, University of Western Ontario, 27th October, 1967.

Mr. George Swinton, Associate Professor of Art, University of Manitoba, October, 1967.

Dr. Samuel S. B. Taylor, Lecturer of French Language & Literature, St. Andrew's University, Scotland, 20th November, 1967.

Dr. Marian Dobrosilski, Assistant Dean, Faculty of Philosophy, University of Warsaw, Poland, 24th October, 1967.

Dr. Northrop Frye, Professor of English, Massey College, University of Toronto, 24th November, 1967.

Professor P. H. J. Lloyd-Jones, Oxford University, Regius Professor of Greek, Oxford and Yale University, 25th November, 1967.

Professor Jean Richard, University of Dijon, 12th January, 1968.

Professor Leonard W. Forster, Professor of German & Head of Department, Cambridge University, 15th February, 1968.

Dr. Lesly Heathcote, Senior Lecturer in Geography, Flinders University, Australia, 7th March, 1968.

Hon. Arthur Laing, Minister of Indian Affairs and Northern Development, 13th March, 1968.

The announcement of the Woodrow Wilson Fellowship Foundation in the spring of 1968 brought satisfaction to the Carleton community. The awards are made to students displaying the potential of becoming college teachers. Seven members of the graduating class of Carleton were named Woodrow Wilson Fellowship designates, virtually assuring them of substantial support for graduate work. In the number of those awards received by its graduates, Carleton University ranked second among Ontario universities, and third nationally. The awards are primarily intended for students in the Humanities and Social Sciences. The five graduates of the Faculty of Arts winning such recognition in 1968 took their undergraduate work in English, Economics, Modern Languages, German, and Political Science.

Members of the Faculty of Arts continue to serve the greater academic community in a number of ways. The relations between the various levels of government and the Canadian universities are currently a matter of great concern. Dr. Donald C. Rowat, Professor of Political Science, Carleton University and Mr. R. Hurtubise, Associate Professor, Faculty of Law, University of Montreal, have been named Co-Commissioners for the Study of the Relations between Universities and Governments. The Commission will devote the academic year 1968-69 to the study.

Mention should be made of one resignation and one appointment. Dr. John Porter, Professor of Sociology and a member of the Carleton faculty for eighteen years, resigned in order to take up an appointment at the University of Toronto on July 1, 1968. Professor Porter earned an international reputation as a scholar whilst on the faculty of Carleton University. Over the years he contributed to and derived benefit from many lively discussions on matters of social theory and policy at Carleton. His former associates wish him continued success in his new position.

The Right Honourable Lester B. Pearson joined the Faculty of Arts as Professor of International Affairs on July 1, 1968. His new associates welcome him to Carleton University.

D. M. L. FARR,	G. C. MERRILL,	J. J. KELLY,
<i>Dean,</i>	<i>Associate Dean,</i>	<i>Dean,</i>
<i>Faculty of Arts</i>	<i>Faculty of Arts,</i>	<i>St. Patrick's College division,</i>
	<i>Division II</i>	<i>Faculty of Arts</i>

Faculty of Science

It is a salutary thing to relax at the end of an academic year and ask what a Faculty has done during the past year. Naturally such a question can be asked only with the dual function of the University in mind; the creation and the dissemination of knowledge. We owe it to ourselves from time to time to evaluate the purpose and effectiveness of our own private study and research. We owe it to our students, who are in large measure the *raison d'être* of the University, and we owe it to the taxpayer, who is bearing a large burden of the cost of running a modern university. On the tangible and easily demonstrable side, we can show that we have placed a fair number of students in positions where they can begin to demonstrate their scientific expertise. Eight Doctoral students, 15 Masters, 32 honours Bachelors, and 95 Bachelors left our classrooms and laboratories during the past year either to continue their studies in other institutions or to take their place in business and industry.

As can be seen elsewhere in this Report, the faculty have not been idle in the pursuit of their particular discipline; papers have been read at Learned Societies and published in the Learned Journals; Dr. John W. ApSimon of the Department of Chemistry was awarded a C. D. Howe Memorial Fellowship, and many other members of the faculty have taken their place as officers and Fellows of the Learned Societies.

Following upon the heels of the meetings of the Learned Societies, which were held at Carleton University last June, the XIII Colloquium Spectroscopicum Internationale brought crystallographers from the major scientifically-minded nations to the first meeting of this Society held outside Europe. In July, the plant physiologists met to honour the Sixth International Conference on Plant Growth Substances. Unlike many conferences held at the University where the co-sponsoring society is responsible for the publication of the papers presented, the botanists arranged through the kind offices of the National Research Council and the University to publish a volume of the Proceedings

of these meetings under the editorship of Dr. Frank Wightman.

As the whole emphasis of the Department of Physics has changed since last reporting (see President's Report 1961-62) on the Department and as the staff, under the chairmanship of Professor E. P. Hincks, F.R.S.C., has now settled into their new quarters, it is fitting that some mention should be made of their activities.

The research activities in the Department of Physics are concentrated in two main areas, nuclear physics and elementary particle physics. Nuclear Physics is primarily the study of the properties and structure of atomic nuclei, the components of which are known to be protons and neutrons. Elementary particle physics on the other hand is concerned with the properties of the protons and neutrons themselves, as well as electrons and, in addition, a vast number of short-lived objects that can be artificially created in the collision between the more familiar particles. The questions being asked now about all these so-called elementary particles are the same questions that were once asked about atoms, and still later about the atomic nuclei, which particles, if any, are really elementary, and which can be described as composites of others? Do they have a structure and, if so, what is it? How do they interact with each other?

According to simple physical principles, the smaller the particle to be studied, the higher is the energy that must be used to probe its structure. Thus atomic physics requires energies of a few electron volts (EV), nuclear physics is usually carried out at energies of several million electron volts (MEV), and studies of elementary particles are most rewarding at energies greater than 1000 MEV (1 GEV). The term "High Energy Physics" is thus commonly used to denote elementary particle physics. Most of the work in the Department on Nuclear Physics is done with the "Dynamitron". This is an accelerator that produces fairly intense beams of 3 MEV protons or deuterons. It was purchased several years ago with a National Research Council grant awarded jointly to the University of Ottawa and Carleton University. Its operation is at present financed mainly by an annual joint grant from the Atomic Energy Control Board, and responsibility for both operation and experimental program is in the hands of a director and a users' committee which consists of representatives from both universities. At this accelerator (which is located on the University of Ottawa campus), Professor R. L. Clarke and Dr. A. L. Carter and several graduate students are setting up equipment for a series of experiments. Their main interest at present is in the study of nuclear energy levels by the inelastic scat-

tering of neutrons. Dr. A. C. Ghosh has been interested for some time in reactions in which Alpha Particle Emission is induced by neutrons and studies these using a small neutron generator which is in the Physics Building.

Apparatus for the measurement of positron annihilation lifetimes and of the lifetimes of nuclear excited states has been set up by Dr. R. D. Barton. This uses the most up-to-date techniques of fast detection and circuitry and employs an on-line PDP8 computer. Two other research projects can be classified as applied nuclear physics. Dr. T. J. S. Cole, in a co-operative program with Dr. W. M. Tupper of the Department of Geology, determines the ages of minerals by measuring nuclear isotopic abundances with mass spectrometers. In particular, the relative abundance of Argon 40 is dependent on the radioactive decay of Potassium 40 and is a useful indicator of Geological age. Professor R. L. Clarke is moving a facility from Chalk River to Carleton, to study the use of X-Ray sources as a medical diagnostic tool. This program will be supported by A.E.C.L. The experimental high energy physics group, consisting of Professor D. Kessler, Dr. K. W. Edwards, Dr. R. Morrison, and with some contribution by Dr. R. D. Barton, has received major funding in the amount of \$175,000 for their program this year from a National Research Council grant. This group works in full collaboration with Professor E. P. Hincks and the High Energy Particle Physics group in the division of Pure Physics at National Research Council Laboratories. Their program includes the development of techniques: improved time-of-flight measurements and streamer spark chamber are being currently studied. Missing-Mass spectrometer studies of High Energy P-P scattering work is being done at present at the 12.5 GEV Proton Synchrotron (ZGS) located at the Argonne National Laboratory outside of Chicago. (There are no High Energy Accelerators in Canada.) In a recently completed experiment performed in collaboration with physicists from Argonne, the University of Chicago, and Los Alamos Scientific Laboratories, the production of bosons in association with deuterons was studied, with the deuteron measured by the spectrometer. Cross-sections for the production of known bosons (e.g., the Pion) were measured as a function of bombarding energy, and a search was made for less well established bosons.

Experiments with slow muons are done at the 450 MEV synchrocyclotron at the University of Chicago. In this energy region useful information can be obtained both about nuclei and about elementary particles, in particular muons and pions. Most fruitful

during the past few years have been the studies of muonic atoms, a field in which the N.R.C. group in a collaboration with Professor H. L. Anderson of the University of Chicago was one of the pioneers. Plans are being made for future work towards the end of 1968 and, for the first time, Carleton graduate students will be involved in the experiments.

The Theoretical Physics Group in the Department is providing a valuable and necessary back-up to the experimental program. Dr. D. J. Brown, Dr. L. Resnick and Professor M. K. Sundaresan are studying theoretical approaches to the problem of Boson Production in P-P scattering and are attempting to calculate from more basic principles results that fit the experimental data. Professor M. K. Sundaresan and Mr. V. Srinivasan, a graduate student, have made significant new calculations of effects leading to nuclear excitation in muonic atoms. Dr. J. E. Hardy is interested in some of the more profound aspects of elementary particle and Quantum Field Theory.

Finally, as a matter of interest for the future of Physics in Canada, it should be noted that Professor E. P. Hincks is chairman of a group of five physicists (representing the University of Toronto, McGill University, and Carleton) who have been awarded a grant by the National Research Council to study the feasibility of Canadian participation in the U.S. National Accelerator Laboratory which is building a 200 GEV accelerator at Weston, near Chicago. This grant is being administered by Carleton and it is hoped that their study will be completed by the end of 1968.

H. H. J. NESBITT,
Dean, Faculty of Science

Faculty of Engineering

The rate of growth of the undergraduate engineering program at Carleton, on the basis of student enrolment, in the seven year period 1960-61 to 1967-68 has been higher than that of any other undergraduate engineering degree program in Canada. The full-time engineering student enrolment increased from 118 in 1960-61 to 532 in 1967-68; the number of full-time faculty members, on-campus, increased from 7 to 25 during this period; and the courses offered by the Faculty of Engineering increased from the equivalent of 25 undergraduate courses plus two graduate courses per term in 1960-61 to 30 undergraduate plus 32 graduate courses per term currently.

The undergraduate enrolment in the Faculty of Engineering increased from 411 in 1966-67 to 469 in 1967-68 and the full-time graduate enrolment increased from 41 to 63. Forty-nine Bachelor's degrees, 27 Master's degrees and three Ph.D. degrees were awarded in Engineering during the 1967-68 academic year. It is interesting to note that the number of Master's degrees awarded this year exceeded the number of Bachelor's degrees awarded three years ago and that the total number of degrees awarded this year (79) was nearly the same as the total engineering enrolment (82) only eight years ago. The number of students in the graduating class who were awarded fellowships and scholarships for post graduate studies reflected a very comforting increase over the previous year. In particular, Toomas Vilmansen—the 1968 winner of the University Medal in Engineering—was awarded a National Research Council Centennial Science Scholarship.

While the increased enrolments and numbers of degrees awarded provide a measure of the increased teaching and research efforts of the Faculty, another equally significant measure of the activity is the number and variety of the topics currently under active research and study by the faculty. During the past year the total number of studies—including both new and continuing investigations—was

approximately 45, of which some 32 were assisted through extra-mural research grants. A number of these projects are in the closely related areas of communications, control, hybrid digital-analog computing and signal processing. A group of some two dozen graduate students and three faculty members working with a hybrid computing facility are currently investigating such topics as random ship motion, in vivo control of glucose levels, and automatic communications channel equalization. Co-operation with local laboratories is a strong feature of these research studies—as described in the 1966-67 report. Another area of considerable activity is associated with the electron beam welding facilities—with industrial applications receiving particular emphasis. The first electron beam welder became operational this year. Although the solid state electronics work has been limited to magnetic devices, it is expected that with the appointment of Dr. A. R. Boothroyd, these studies will be expanded into the semiconductor area. The construction of a semiconductor device fabrication facility was initiated this year.

The engineering programs of study, in particular the undergraduate program, received a good deal of attention during the fall term. It is fair to report, I believe, that at least a modest attempt was made to test the possibility of more than the usual extent of year-to-year changes. After lively discussions and detailed examination of a number of possible modifications the final changes adopted were as follows: In the first year of the B.Eng. program the courses in surveying (84.105 and 84.106) were dropped from the list of degree program requirements. This enabled a small reduction in the contact time and a redistribution of the subject matter of Engineering 81.110. A new course in surveying (Engineering 84.104)—comprising three weeks of lectures and field work at the end of the spring term—will, however, be offered as an elective. At the third year level, the problem analysis period associated with Engineering 95.366 was dropped to enable an increase in the 87.312 lectures from two to three hours per week, the full year course Engineering 93.350 was subdivided into two courses (93.351 and 98.361), and the choice of an elective in the third year program was limited to either a humanity or a social science. At the fourth year level the laboratory periods for Engineering 88.414 were moved from the second to the first term, the first term laboratory periods for Engineering 88.442 were shifted to the second term, and a new course 81.411 (Introduction to Solid Mechanics) was approved in lieu of 87.413 (Mechanics of Machines II). Finally in order to provide the students with a broader choice of

electives, two new fourth year elective subjects were developed: Engineering 84.433 (Urban Planning) and Engineering 84.434 (Transportation).

At the graduate level, the following nine new one-term courses were adopted and will be offered for the first time in 1968-69: Advanced Structural Design, Prestressed Concrete, Foundation Engineering—Case Histories, Advanced Soil Mechanics III, Urban Transportation, Geometric Design, Principles of V-STOL Aircraft, Structural Dynamics and Aeroelasticity, and Radiation Heat Transfer.

Eight new full-time faculty appointments were made for the 1968-69 academic year: R. C. Biggs, A. R. Boothroyd, D. A. Kasianchuk, R. F. Manuel, S. T. Nichols, J. S. Riordon, J. C. Vrana and J. Y. Wong. During the past several years some justifiable concern had been expressed in many quarters concerning the difficulties associated with the recruitment of additional members of faculties with adequate experience to meet the increased challenges and demands of teaching and research in engineering. It is significant and comforting to note, therefore, that the above eight new appointments will bring to Carleton a combined total of over ninety years of post baccalaureate experience that is rich in variety and excellence.

During the month of May, Carleton was host to the first meeting of the Heads of Engineering Departments of Canadian Universities. A total of 64 participants registered for the two day conference to discuss, among other topics, "Research in the Universities", "The Undergraduate Program" and "The Communications Question". The success of this first conference was reflected, in part, by the decision of the participants to meet again in Ottawa in the spring of 1969—with Professor Scott of the University of Ottawa and Professor George delegated to serve as co-organizers of the second conference.

The rate of growth, the increasing variety and depth of our teaching and research activities, together with the projected increases for the next few years gave rise to increased concern and dialogue regarding the academic organization of the Faculty of Engineering. Up to the current year the Faculty of Engineering has worked, essentially, as a single unit. With the increased size and diversity of our activities it became clear that some system of smaller units within our organization was required in order to ensure a high level of effectiveness in our deliberations on academic goals, policy, etc., and overall planning for the years ahead. Lengthy and numerous discussions—both formal and informal—were held on this subject. The results of our discussions indicated a strong preference for an organization of our

Faculty into groups or divisions related to teaching and research subjects of interest rather than the traditional organization of a faculty involving departments by degree program designation. Within the limitations of our current size and the range of the fields of interest of the members, the Faculty of Engineering has been organized into the following five divisions for the 1968-69 academic year:

- (1) Solid Mechanics, Structural and Mechanical Analysis and Design
- (2) Soil Mechanics and Transportation
- (3) Fluid Mechanics, Heat Transfer and Thermodynamics
- (4) Computing, Communications, Control and Power Systems
- (5) Circuits, Electromagnetics, Electronic Devices, and Materials.

The following faculty members have been appointed as chairmen of the above divisions for 1968-69: (1) W. Wright, (2) J. Ruptash, (3) D. A. J. Millar, (4) D. A. George—July 1/68 to September 1/68, and M. A. Gullen for period September 1/68 to June 30/69, and (5) A. R. Boothroyd. It is important to note that this organization is experimental in nature in that it is, I believe, unique in Canada. We expect, therefore, to assess its effectiveness with considerable care and make such modifications from time to time as our experiences may suggest.

JOHN RUPTASH,
Dean, Faculty of Engineering

Faculty of Graduate Studies

REPORT OF THE DEAN

Graduate studies have increased in importance at Carleton during 1967-68 with an expansion in numbers of students at M.A. and Ph.D. levels and new programs being established. During the year 11 Ph.D. degrees were awarded (in Biology, Geology, Mathematics and Engineering)—this being as large as the total of such degrees in the past. There were also 147 Masters degrees and 30 graduate diplomas received.

Among new programs the most important is the Masters program in Social Work. The School of Social Work, located on the St. Patrick's campus, became a part of Carleton University in July, 1967. In May, 1968, 34 degrees were awarded. The first new Carleton program submitted to the Appraisals Committee of the Ontario Council of Graduate Studies—a Ph.D. program in Economics—received the approval of the Committee in June, 1968, but will not come into operation until September, 1969.

With the increase in numbers of projected graduate programs at Ontario universities, and the consequent burden on provincial finances, the Graduate faculty has been anxious to ensure that Carleton's graduate work should be carefully planned to ensure that it will command the required academic and public support. To this end a Committee on Graduate Studies Development has been set up to survey faculty opinion concerning the future of Graduate Studies and to prepare a report which might assist University authorities in identifying our most urgent interests and needs for faculty, library, and supporting facilities.

Enrolment figures and information on fellowships appear on pages 35-44.

H. E. ENGLISH,
Acting Dean of Graduate Studies

FELLOWSHIPS

Province of Ontario Graduate Fellowships	90
Carleton University Teaching Fellowships	54
Canada Council Fellowships	5
National Research Council Studentships	34
National Research Council Bursaries	7
1967 Science Scholarships	4

SCHOOL OF PUBLIC ADMINISTRATION

There were 10 full-time and 50 part-time students registered in the M.A. program, 20 having been admitted in the fall of 1967. In the Graduate Diploma program there were 24 full-time and 97 part-time students; 67 of these were admitted in 1967. There were 64 students formally registered in the Certificate in Public Service Studies program, and an additional 20 special students were taking courses to meet entrance requirements.

During the year eight M.A. degrees were conferred, and 30 Graduate Diplomas and 15 Certificates in Public Service Studies were awarded. This brings the number of graduates since the beginning of the School to 322—79 M.A.'s, 145 D.P.A.'s, 95 C.P.S.S.'s and 3 Honours B.A.'s.

The School again offered a special Course in Administration for Overseas Public Servants, under the sponsorship of the External Aid Office. Of the 27 candidates from 16 underdeveloped countries, 26 were successful in obtaining a Certificate at the end of the course—the highest rate of success the School has had with this group. The course was under the direction of Professor Willms, who instructed the students in Public Administration. Mr. David Jones lectured in Economics and they took Political Science in the regular Political Science 100 class, with special group leaders. Mr. Gérard Veilleux and Mr. W. A. Matheson led the discussion groups in the Public Administration course. Mr. Matheson also handled all administrative details, and arranged visits to government departments.

The Summer School seminar for Senior Overseas Administrators this year has 22 participants from 15 countries. Mr. Matheson is in charge of the course, which will consist of twelve weeks of special lectures by University professors, seminars led by senior Canadian public servants, case studies in various administrative fields, and visits to federal government departments, provincial governments and other sites considered to be of interest and benefit to the members of

the course. The School of Public Administration is grateful to the members of the University staff, and to the many members of the Public Service for their help and cooperation in making this course a success each year.

R. O. MACFARLANE,
Director, School of Public Administration

INSTITUTE OF CANADIAN STUDIES

For the third consecutive year the quality of students accepted in the Institute's M.A. program has been high and their performance good. Twenty-four have been in course during the year—16 full-time (including 3 in their qualifying year) and 8 part-time. Five graduated in the spring and 10 more are expected to graduate in the fall. Several intend to go on for their Ph.D. at other institutions.

The students formed a particularly cohesive, as well as lively, group this year. This was in part due to the participation of several of them in the interdisciplinary seminar conducted by Professors McDougall and Bickerton. The subject of the seminar was "Canada's First Hundred Years: the Transition from a Rural to an Urban Society", with particular reference to Lanark County.

The students were also given a great deal of assistance with their theses and research projects by the Institute's indispensable Associate Director B. C. Bickerton.

Two of the Institute's visitors this year—Visiting Fellow Alfred Purdy, the noted Canadian poet, and Professor Mildred Schwartz, author of *Public Opinion and Canadian Identity*—were particularly valuable focal points for student interest.

The Director of the Institute, new at the job, took time to visit seven universities in five provinces to discuss our M.A. program with interested faculty members in the various departments represented in the Institute. She received a warm reception at all the universities and much interest was shown in our work. The Director also designed, with the assistance of the Information Office, a brochure describing our program and activities. Copies were sent to faculty members in the humanities and social sciences in all Canadian universities.

The *Carleton Library* continued its successful course under the general editorship of Professor R. L. McDougall, with five titles added, bringing the total to forty-one. A new series, entitled *Carleton Contemporaries*, was started this spring under the editorship (for the

time being) of the Director of the Institute. It is designed to stimulate informed discussion of current and controversial issues in Canada. The first book in the series—*An Independent Foreign Policy for Canada?*, edited by Stephen Clarkson—came out in the spring.

After much discussion the Institute's Committee of Management agreed to discontinue the Institute's undergraduate Honours program. No students were in course, nor indeed had any graduated from it, and for other reasons as well it was decided it would be better to give all our attention to our M.A. program and related activities of the Institute.

With all of the 15 full-time M.A. students coming to us in 1968-69 being on fellowships, it looks as if the next academic year will be even more exciting than the past one has been.

PAULINE JEWETT,

Director, Institute of Canadian Studies

SCHOOL OF INTERNATIONAL AFFAIRS

Enrolment in the School of International Affairs during the year showed substantial increase. Full-time students numbered 28, of whom 23 were in the final or M.A. year and five in the first, or qualifying year. In addition there were four part-time and special students. Students enrolled came from 11 countries other than Canada and from 13 Canadian universities other than Carleton. Three students were awarded the M.A. in the Fall Convocation and 13 in the spring.

A highlight of the teaching program is the interdisciplinary seminars. This year two such seminars were given—one on economics and political integration in Western Europe, the other on political and economic development, with particular attention to the developing countries. In each the seminar was under the guidance of a group of faculty members representing the departments most interested in the topics.

The School also aims to promote research and public education in International Affairs. During the past three years a post-doctoral research fellowship, jointly financed by the Canadian Institute of International Affairs and the School, has been available for research, preferably in the defence field. During 1967-68 a book length study entitled *Nato: Issues and Prospects* by Dr. Harald von Riekhoff, first incumbent of the fellowship, was published by the Canadian In-

stitute of International Affairs. A study on the proliferation of nuclear weapons by the second incumbent Dr. Michael Sherman is now in the hands of the printer. During 1967-68 the fellowship was held by Dr. Carsten Holbraad who is doing a study of the survival in the post World War II period of the idea of the Concert of Europe.

The School also plans to bring to Carleton, as visiting members of the staff, distinguished public servants and scholars, to assist in its teaching and research programs. During 1967-68 General Charles Foulkes, C.B., C.B.E., D.S.O., C.D., LL.D., D.Sc., Commander of the First Canadian Corps during World War II, and for several years Chairman of the Joint Chiefs of Staff Committee, joined the School on a two year appointment as Visiting Fellow. During the second term, under arrangements with the Canada Council, Dr. Lydia na Ranong, Associate Professor of Political Science at Chulalongkorn University, Bangkok, Thailand, whose special field of interest is South East Asia, also joined the staff on a half-year appointment as Visiting Professor. Active participation in the School's program by these specialists was of great assistance to students and faculty.

In cooperation with the Canadian Institute of International Affairs, the third annual week-end conference was held in January. The subject was Canada's External Aid Policy. Some sixty persons took part, including government officials concerned with administering external aid, faculty members from Carleton and other universities, as well as businessmen and governments.

R. A. MacKAY,

Associate Director, School of International Affairs

SCHOOL OF SOCIAL WORK

Ave atque Vale aptly sums up the academic year 1967-68 in the School of Social Work. All members of faculty sought to look and move forward to the task of developing Carleton's newly established professional school. At the same time, it was necessary to look backward with the purpose of considering the strengths of the program with which they had been previously associated—a program into which had gone eighteen years of effort, of planning, and of struggle. That this dual stance could be maintained with minimal upset to a continuing program is a tribute to the helping and supportive environment provided by the University to its newest school.

Eighty-seven students were enrolled in the two-year program, of

whom 85 were full-time, 50 being in the first year, and 35 in the second year. All ten Canadian provinces were represented in the student body, with Ontario (43), Quebec (11), and Saskatchewan (8), providing the major representation. There were also six students from the United States, one from the United Kingdom, and one from Hong Kong. Undergraduate preparation and degrees of the full-time students were obtained in 31 different universities. Of the total enrolment, 45 were men, and 40 women. Thirty-five entered the school directly from university, while 50 had been employed, for at least one year, after completing their undergraduate work. Twenty-four (all men) were married.

Among the students of the School were 10 holders of National Welfare Scholarships, awarded by the Government of Canada. This represents 25 per cent of the 40 national awards open to students in the ten Canadian graduate schools of social work. Financial assistance to students during the year amounted to \$212,165; one hundred and four grants (mostly involving an employment commitment) to 83 students—approximately \$2,500 per student. Thirty-four graduates received the Master of Social Work degree, the first awarded by the University, at the Spring Convocation.

The School of Social Work was accorded in June, 1967, the rare privilege of immediate accreditation, for a two-year period, by the Council on Social Work Education—the authorized professional accrediting body for graduate social work education in North America. This was granted on the basis of the previously accredited program, but requires examination of Carleton's program, for "re-affirmation of accredited status" by the Commission on Accreditation, in June, 1969. During the past year the School commenced the demanding process of self-study necessary in order to provide the documentation required by the visiting team prior to its on-campus study, scheduled for the spring of 1969. Engagement in this self-study of the existing curriculum and of the School's resources will be a major task in the first-half of the new academic year.

Preliminary planning was completed for a demonstration project in a new form of clinical instruction in social work practice under the direct control of the School. Housed in the lower level of the School, it will open in October, 1968, as "The Social Service Center of the Carleton University School of Social Work." The basic assumption behind the project is that given a planned learning experience, structured in terms of selected content items and gradated progression, and drawing on individual and group teaching by regular mem-

bers of faculty, there will be a significant difference in the practice performance and learning progress of students, as compared with the traditional practice experience in the external agency setting. The Project Co-ordinator is Miss M. E. Tanton, and Miss N. M. Vanier will serve as Research Consultant. The Children's Aid Society, the Department of Public Welfare (City of Ottawa), and the Department of Social and Family Services (Ontario), are co-operating with the project.

Involvement with internal concerns related to the accreditation study and adjustment to the university structure, have to some extent handicapped planning in relation to both wider, and new forms of, involvement in the University. The School however was pleased to be able to make some course offerings available to one student enrolled in the School of Public Administration.

Total grants during the year in support of the School's program by the Federal Department of National Health and Welfare, the Ontario Department of Health, the Ontario Department of Social and Family Services, and the Ottawa United Appeal, amounted to \$75,000.

SWITHUN BOWERS,
Director, School of Social Work

GRADUATE ENROLMENT DAY AND EVENING DIVISION—1967-68

	Day	Evening	Total
D.P.A.	24	94	118
M.A.	188	111	299
M.SC.	50	9	59
M.ENG.	47	53	100
M. SOC. WORK	82		82
PH.D.	67	36	103
Special*	28*		28
Total	486	303	789
Total (1966-67)	346	256	602

*Colombo Plan Students

CARLETON TEACHING FELLOWSHIP HOLDERS 1967-68

J. Allan Anderson,	Mathematics
Gwilym V. Archer,	English
Douglas O. Baldwin, B.A., York	History
Klaus R. Brasch,	Biology
Neil Caplan, B.A., McGill	Canadian Studies
Donald Murray Caskie, B.A., Waterloo	International Affairs
Paul Henry Chapin, B.A., Ottawa Univ.	International Affairs
Tzong-Tzyy Chen, B.S., National Taiwan	Geology
Gail Cuthbert, B.A., Toronto	History
Margaret Davidson, B.A., Toronto	Canadian Studies
Susan E. Farley, B.A., Ottawa Univ.	English
Robert N. Fournier	International Affairs
David R. Gill, B.SC., St. Patrick's	Physics
G. Garfield Girvan, B.A., Carleton	French
Galen Greer, B.SC., M.SC., U.N.B.	Biology
Alfred Earle Harland, B.A., Manitoba	International Affairs
Donald E. Hart, B.SC., M.SC., Western	Biology
Ivy Hewis, B.A., Carleton	Spanish
Satyavan Iyengar, B.TECH, Indian Inst of Tech.	Engineering
Vijay Kumar, B.SC., Punjab Engineering College	Engineering
Gail Kirkpatrick, B.A., Saskatchewan	Canadian Studies
Paul A. Ladouceur, B.SC., Loyola	International Affairs
Maurice B. Lambert, B.SC., M.SC., U.B.C.	Geology
Norman Lang, B.SC., Glasgow Univ.	Mathematics
Georgina M. Lees, B.SC., U.B.C. M.SC., Bristol	Physics
Lawrence R. McDonald, B.A., R.M.C.	English
Norman McLeod, B.A., Saskatchewan	French
John C. MacDonald, B.ENG., Nova Scotia Tech.	Engineering
Stanley Makuch, B.A., Toronto	History
George D. Mason, B.SC., Queen's, M.SC., McGill	Geology
William A. Matheson, B.A., Dalhousie, M.A., Carleton	Political Science
Jeewan N. Mathur, B.ENG., M.ENG., Birla Inst of Tech.	Engineering
Ann Midgley, B.A., U.B.C., B.L.S., Ottawa Univ.	Sociology
Catherine P. Morrison, B.SC., St. Patrick's	Sociology
C. John Orton, B.A.SC., Toronto	Psychology
Jean-Louis Paquette, B.A., Providence College	French
Michael V. Patriarche, B.ENG., R.M.C.	Engineering
Diane Louise Puschel, B.A., Carleton	French
Geoffrey H. Reeves, B.A., Univ. of Hull	History
Lorelei Robins, B.A., Carleton	Spanish
Jack J. Rosenfeld, B.SC., McGill	Chemistry
Lawrence J. Schnurr, B.A., Waterloo	International Affairs
Abdul Sharah, B.S., Karachi, B.ENG., Karachi,	
M.SC., Tokyo	Engineering
Dean Franklin Sharratt, B.S., Manitoba	Engineering
Thomas W. Sheppard, B.A., Acadia	Political Science
Harvey Shulman, B.A., Sir George Williams	Political Science
W. H. Siddiqui, B.SC., Agra, M.SC., Sind Univ.	Biology

S. C. Srinivasan, B.SC., Madura, M.SC., Bombay
 Douglas F. C. Stevens, B.A., Saskatchewan
 S. Swaminithan, B.TECH., Coimbatore
 Stephen R. Thompson, B.A., Univ. North Carolina
 D. B. Tien, B.ENG., Vietnamese Naval Inst. of Tech.
 Charles Peter Turner, B.A., Bishop's, LLL, Laval
 Robert Douglas Watt, B.A., Carleton

Chemistry
 International Affairs
 Engineering
 International Affairs
 Engineering
 International Affairs
 History

POST-DOCTORAL FELLOWS

Biology

Hinks, Christopher, B.SC., London, PH.D., London — National Research Council and Canadian Department of Agriculture — Studies on neurosecretory cells in the brain of Lepidoptera with special reference to the circadian rhythm in adult insects.
 Pathak M. Pathak, B.SC., M.SC., PH.D., Bombay, PH.D., Manitoba — National Research Council — Effect of Benzimidazole on protein synthesis, photo-synthetic phosphorylation and NAD kinase activity in detached wheat leaves.
 Schneider, Elnora Anne, B.SC., St. Andrews, M.S., Rutgers, PH.D., Carleton — Canadian Department of Agriculture — Cytological and cytochemical studies of cellular changes in stored tuber and fruit tissues.
 Sinha, Rajeshwar Prasad, B.SC., Bihar, M.S., Wyoming, PH.D., Manitoba — National Research Council — Recombinagenic effect of certain chemicals applied to genus *Hordeum*.

Chemistry

Behrendt, Stefan, B.SC., City College of New York, M.S., PH.D., Gottingen — National Research Council Fellowship — Studies of correlation of rates of solvolysis of Cr(III) complexes with solvation parameters obtained by nuclear magnetic resonance. Also study of fast solvent exchange reactions of transition metal complexes by nuclear magnetic resonance.
 Dunston, Joyce Marilyn, B.SC., M.S., PH.D., London — National Research Council Fellowship — Interrelation of pentacyclic triterpenes *via* epoxide cleavage.
 Hooper, John, B.SC., Brunel University, PH.D., London — National Research Council Fellowship — The total synthesis of pentacyclic triterpenes.
 Khorana, S., B.SC., Delhi, PH.D., Bombay — National Research Council Fellowship — Studies of atomic defects in crystal lattices using radiochemical methods and Mossbauer analysis.
 Majid, Ligia, B.SC., PH.D., London — National Research Council Fellowship — The kinetics of the base hydrolysis in Co and Cr pentakismethylamine halides are being studied.
 Menzel, Burkhard, DIPL. ING., DR. ING., Darmstadt — National Research Council Fellowship — The structure of hydroxyapatites.
 Mortensen, Ole Sonnich, Naturviden Skabelig Embedseksamen, Copenhagen — National Research Council Fellowship — A formulation of the general theory of electronic raman transitions, and the experimental observation of these. An experimental study of the effects of vibronic coupling and paramagnetic resonance interactions in the optical spectra of single crystals of transition metal complexes. Application of the quantum mechanical off-

diagonal hypervirial theorem to the calculation of reliable expectation values for optical transition probabilities.

Samad, Roushan Ara, B.SC., Dacca, PH.D., McGill — National Research Council Fellowship — Purification of oxalacetate decarboxylase and a study of the mechanism of enzymic decarboxylation

Sastri, Vedula Sankar, M.A., Sri Venkateswara University, PH.D., State University of New York, Buffalo — National Research Council Fellowship — Kinetics and thermodynamics of formation of metal-dithiocarbamic acid complexes. Chemical and physical processes in flames which determine the sensitivity of determination of elements by atomic absorption spectroscopy.

Sharkawi, Effat A., B.PHARM, Cairo, PH.D., California — National Research Council Fellowship — Enzymic regulation of neurohumoral agents in brains.

Geology

Mukherji, Kalyan Kumar, B.SC., M.SC., Calcutta, Diploma in Geophysics, Leeds, PH.D., University of Western Ontario — National Research Council — Carbonate petrology and lithostratigraphy of Ordovician rocks, Ontario.

International Affairs

Holbraad, Carsten, B.S.(ECON), London School of Economics, D.PHIL, Sussex — Research Fellow Canadian Institute of International Affairs — Carleton — Analysis of the Idea of a Concert of Nuclear Powers.

THESES COMPLETED AND POST-GRADUATE DEGREES AWARDED NOVEMBER 1967 AND MAY, 1968

Doctor of Philosophy

BIOLOGY

Adams, Gabrielle Helen Margaret, B.SC., McMaster — "Protein changes associated with aging auxin induced growth in Jerusalem artichoke tuber slices"

Fowke, Lawrence Carrol, B.SC., Saskatchewan — "Comparative Cytological Studies of Dormant, Aged and Expanding Cells of Jerusalem Artichoke Tuber Tissue"

Javaid, Mohammad Y., B.SC., M.SC., Panjab University — "Some factors affecting the temperature selection of three species of Salmonids"

McLaughlin, John Murray, B.SC., M.SC., McGill — "Blood Amino Acid Studies"

Peterson, Richard Harry, B.SC., M.SC., New Brunswick — "The effects of temperature change on metabolism and spontaneous activity of Atlantic salmon (*Salmo salar* L.) and on metabolism of salmon brain tissue"

Pomeroy, Murray Keith, B.SC., M.SC., New Brunswick — "Studies on the physiological and biochemical changes associated with the seasonal cycle of frost hardiness in the living bark and needles of Red pine, *Pinus resinosa* Ait."

ENGINEERING

(AERONAUTICAL)

Alam, Mohammad Shamsul, B.SC.(ENG.), Ahaanullah Eng. College, M.SC.,

Texas A and M College — "A theoretical and experimental study of twin jet interaction"

(ELECTRICAL)

Kaye, Alan Roger, B.SC.(ENG.), King's College, London, M.ENG., Carleton — "Reception of digital signals over randomly time variant dispersive channels"

Rahman, Md. Azizur, B.SC.(ENG.), East Pakistan Univ. of Eng., M.A.SC.(ENG.), Toronto — "Parasitic Losses in Hysteresis Machines — Their Effects on Improved Models"

GEOLOGY

Carson, David John Temple, B.SC., Queen's, M.A.SC., British Columbia — "Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Mineral Deposits to Plutonic Rocks"

MATHEMATICS

Chang, Shao-Chien, B.SC., Taiwan, M.SC., Carleton — "Summability: projections, closure properties and consistency problems"

Master of Arts

CANADIAN STUDIES

Attridge, Walter Ewing, B.A., Mount Allison — Degree by course work

Caplan, Neil, B.A., McGill — "The Off-shore Mineral Rights Dispute in Canada"

Crowder, Norman Kenneth, B.A., Queen's — Degree by course work

MacLeod, Colin George, B.A., Alberta — Degree by course work

Scott, Norman John, B.A., Toronto — Degree by course work

ECONOMICS

Wust, Karl A., B.A., McGill — "Debt Management Canadian Provinces, 1954-65"

ENGLISH

Bubba, Robert Dominic, B.A., Laurentian — "Moral Attitudes of the Low Life Characters in Chaucer's *Canterbury Tales*"

Kent, Phyllida A., B.A., Carleton — "A Study of the Structure of Thoreau's Week on the Concord and Merrimack Rivers"

Lavoie, David B., B.A., Ottawa University — "Georgians and War Poets: Two Approaches to Poetry"

Smith, Morine B., B.A., Saskatchewan — "The Magician Figure in the Novels of John Cowper Powys"

Waterman, Jennifer, B.A., Keele University — "The Relationship between Poe's developing Aesthetic Theory and Personal Taste, and the Creations and Revisions of the Poetry"

Wilson, Mary Louise, B.A., Toronto — "Freedom and Necessity in Marvell's Poetry and Prose"

FRENCH

Cournoyer, Therese, B.A., B.PED., University of Montreal — Degree by course work

Girvan, Garfield Garth, B.A., Carleton — Degree by course work
McFaul, Terence M., B.A., St. Patrick's — Degree by course work
Puschel, Diana Louise, B.A., Carleton — Degree by course work
Williams, Marie Celine, LICENCE ÈS-LETTRES, Grenoble — Degree by course work

HISTORY

Baker, William M., B.A., Toronto — Degree by course work
Baldwin, Douglas Owen, B.A., York — Degree by course work
Crowley, Terence Allan, B.A., Bishop's — Degree by course work
Cuthbert, Gail Patricia, B.A., Toronto — Degree by course work
Gagan, Donald Allan, B.A., Western Ontario — "The Clear Grits, 1851 to 1867"
Makuch, Stan, B.A., Toronto — Degree by course work
Richards, Elva, B.A., Queen's — Degree by course work
Watt, Robert Douglas, B.A., Carleton — Degree by course work
Whiteley, Pamela Christine, B.A., Hull — Degree by course work

INTERNATIONAL AFFAIRS

Anderson, Peter Robert, B.A., Toronto — "The Soviet View of the U.N. as a Mechanism for Preserving Peace"
Belanger, Peter Webster, B.A., British Columbia — "Problems and Prospects of Increased Japanese Emigration to Canada — A Case Study of the Attitudes of a Selected Sample of Japanese Canadians to Immigration from Japan"
Bramer, Leon, B.A., Sir George Williams, M.A., Queen's — Degree by course work
Caskie, Donald Murray, B.A., Waterloo — Degree by course work
Chapin, Paul Henry, B.A., Ottawa University — Degree by course work
Cooper, David Arthur Ridley, B.A., Lancaster — Degree by course work
Grimes, David A., B.A., Western Ontario — "United Nations Efforts to Implement Sanctions Against South Africa, Portugal and Rhodesia"
Harland, Alfred Earle, B.A., Manitoba — Degree by course work
Ladoucer, Paul André, B.A., Loyola — Degree by course work
Maynard, Bruce Herbert Edward, B.A.SC., Toronto — "An exploratory application of factor analysis to gain a conceptual appreciation of the countries which have earmarked forces for United Nations peacekeeping purposes"
McCreary, William P., B.A., R.M.C. — "Greenland and North American Defence"
Moore, Rodney Ernest, B.A., Keble College, Oxford — "The Commonwealth Secretariats of 1965 and 1907 (An Analysis of the Secretariat Established in 1965 and an Account of the Failure to Establish a Similar Body at the Colonial Conference of 1907)"
Olutola, Charles O., B. OF LAWS, Dacca, B.A., Lakehead — Degree by course work
Roy, Roger Frank, B.A., Mount Allison — Degree by course work
Topper, Louis, B.A., Lancaster — Degree by course work

Truman, Ronald Mead, B.A., Carleton — "The French Predicament, 1930-1936"

POLITICAL SCIENCE

Eberst, Alan H., B.A., Manchester — "The Mother and Child Affair: A Study of Pressure Group Activity in Ireland"

Linstead, Stephen Guy, B.A., D.P.A., Oxford — "The Law of Crown Privilege in Canada and Elsewhere"

Milner, Henry, B.A., McGill — Degree by course work

Postma, John Francis, B.A., St. Augustine's, Toronto — "Between the 'Heeney Report' and the Civil Service Act of 1961"

Shulman, Harvey, B.A., Sir George Williams — "Political Parties in Quebec as Represented in the Social Background of the Legislative Assembly"

Soloway, Susan, B.A., McGill — Degree by course work

Utete, Charles Munhamu Botsio, B.Sc., London — Degree by course work

Villeneuve, Lucien Joseph, B.A., Ottawa University — Degree by course work

Whitaker, Reginald Alan, B.A., Carleton — Degree by course work

PSYCHOLOGY

Bradley, Barbara Booth, B.A., Carleton — "Color form preference and probability of deaf and hearing children"

Cox, Norman W. P., B.Sc., Liverpool — "Effect of familiarization pretraining with random shapes on same-different judgment times"

Islam, Carol Dickson, B.A., Queen's — "Two Stages of Paired Associates Learning as a Function of Intralist Response 'Meaningful' Similarity"

Hannah, Thomas Edward, B.A., Carleton — "Monitoring Eye Movements of High and Low — Anxiety Subjects during the Acquisition of Competitive and Non-Competitive Paired Associate Lists"

Psilinakis, Nicholas P., B.Sc., McGill — "Pentobarbital — Induced dissociation in spatial and brightness discrimination tasks in a Thompson Box"

Stewart, Peter Charles, B.A., Carleton — "The Relations between Anxiety, Social Desirability and Paired-Associates Learning"

PUBLIC ADMINISTRATION

Baner, Adair J., B.A., U.B.C. — Degree by course work

Doerr, Audrey Diane, B.A., Saskatchewan — "Erosion of Federal Power in Canada"

Lacombe, Trefflé, B.A., B.COM., Sir George Williams — "A Study of University Government in the Province of Quebec"

Martini, Malcolm L., B.A., Toronto — "Welfare Grants to Ontario Municipalities"

Muhammad, Abdul Hai, B.A., Dacca — "Canadian Aid Policy"

Ruppel, Carl D., B.A.SC., M.B.A., Toronto — "The Management of Cross-Cultural Volunteer Aid Programs"

Thera, John R., B.COM., Saskatchewan — Degree by course work

Vaison, Robert A., B.A., B.COM., Sir George Williams — "The Achievement of Collective Bargaining in the Canadian Federal Public Service"

SOCIOLOGY

- Allcock, John Bartlett, B.A., Leicester — "The Canadian Campaign for Nuclear Disarmament: A study in the Dynamics of a Social Movement"
- Phillips, Wilkinson Summesh Kumar, B.A., Agra, M.A., Rajasthan — "The Pulse of the Caste System in a Village of Marwar"
- Robert, Edouard-André, B.A., Ottawa University — "Male high school students' values and reference groups in a metropolis"

SPANISH

- Langis, Xenophon, B.A., Carleton — Degree by course work
- Leclair, Richard Guillaume, B.A., Carleton — Degree by course work
- Robins, Lorelei, B.A., Carleton — Degree by course work

Master of Science

BIOLOGY

- De, Purabi, B.Sc., M.Sc., Calcutta — "Mycoflora of the genus *Rosa*"
- Folkins, Leonard Pearson, B.Sc., McGill — "Growth responses of Brome grass and Orchard grass to intensities of defoliation"
- Kerridge, David Charles, B.Sc., Victoria — "The Taxonomic Separation of two Sympatric forms of *Peromyscus* in southeastern Ontario"
- Kuo, Jin-Su, B.Sc., Taiwan — "Studies on the Internal Anatomy of the Adult and Hypopus of *Caloglyphus mycophagus* (Mégnin, 1874) (Acarina: Acaridae)"
- Peterson, Margaret Raymonde, B.Sc., Carleton — "The effect of sub-lethal doses of DDT on simple and conditional reflexes in brook trout, *Salvelinus fontinalis*, Mitchill"
- Riedel, Dieter, B.A., Carleton — "Effects of environmental temperature on the body temperature, oxygen consumption and survival of two species of *Peromyscus* (Rodentia: Cricetidae)"
- Speller, Stanley Wayne, B.Sc., Victoria — "Habitat selection and behaviour in two sympatric species of *Peromyscus* in southeastern Ontario"

CHEMISTRY

- Dickson, David Ross, B.Sc., Carleton — "Ultrasonic Absorption in Dimethyl Sulphoxide Solutions of Alkali Halides"
- Hunter, Norman Robert, B.Sc., Carleton — Photodecomposition of N-Nitrosamines and the Schmidt Reaction on Camphor"
- King, Robert Russell, B.Sc., Carleton — "Epoxide Cleavage as a Means of Methyl Migration"
- Wilson, William Leslie, B.Sc., Carleton — "Some Transformations of Podocarpic Acid"

GEOLOGY

- Sangster, Alan L., B.Sc., Western — "Metamorphism of the New Calumet Sulphide Deposit, Quebec"

MATHEMATICS

- Coldrick, David Blair, B.Sc., Carleton — Degree by course work
- Lang, Norman Craig, B.Sc., Glasgow — Degree by course work

Neimanis, Maris Vilis, B.SC., Queen's — "Uniform Polytopes in Two and Three Dimensional Euclidean Space"

Master of Engineering

AERONAUTICAL

Handa, Sushil Kumar, B.TECH, Indian Inst. of Tech. — "An Application of the Finite Element Method to Plate Problems"

Hanspal, Jasbir Singh, B.SC., Panjab Eng. College — "Numerical and Experimental Studies of the Solidification and Cooling of Short Cylindrical Castings"

CIVIL

Chandra, Harish, B. TECH., India Inst. of Tech. — "Study of Load Tests on Reinforced Concrete Beams to determine Adequacy of Concrete to Resist Flexure"

Chen, Ying-Teh, B.SC.(ENG.), Taiwan — "An Analysis of Time-Dependent Behaviour of Pine-Ended Reinforced Concrete Beam-Columns"

Dalglish, William Alan, B.SC., Alberta — "Wind Gust Pressures on Buildings"

Wallace, Reginald Stanley, B.A.SC., Toronto — "Structural Analysis and Evaluation of Asphalt Overlaid Soil-Cement Airfield Pavement"

ELECTRICAL

Bruton, Leonard Thomas, B.SC.(ENG.), London — "Techniques of Gyrator Realization"

Jain, Adesh Chandra, B.ENG., Indian Inst. of Science — "A Dynamic Model of a System Consisting of a Ship, a Propeller and the Water"

Jardine, David Graham, B.SC., Durham University — "The Pulse Amplitude Modulation Capability of Voice Quality Circuits"

Kaura, Satish Kumar, B.TECH., Indian Inst. of Tech. — "Study of Core Diode Magnetic Logic"

Klein, George Frederick, B.ENG., Carleton — "A Scanning Radiation Detection System for Compensation in Radiotherapy"

Lambert, Michael Kennedy, B.ENG., Carleton — "A Simple Pulse Communications Receiver"

Maksym, Joseph Nicholas, B.A.SC., Toronto — "A Study of an Adaptive Receiver for Interfering Pulses in Noise"

Manning, Ronald Paul, B.A.SC., Toronto — "A Model to Describe the Characteristics of Crosstalk between Insulated Coaxial Pairs"

Mitchell, Thomas Ernest, B.A.SC.(ENG.), Toronto — "An Investigation of Magnetic Telephone Transducers"

Morrison, John Chesterfield, B.SC., Dalhousie, B.ENG., Carleton — "Intensity Modulation of Light Using the Principle of Frustrated Total Reflection"

Nononen, Leo K., B.A.SC., Toronto — "Optimal Control of a Copper Converter by a Method of Conjugate Gradients"

Ogale, Arun Narahar, B.ENG., Poona, M.ENG., Indian Inst. of Science — "Optimum Control of an Electric Arc Furnace Steel Refining Process"

O'Neill, Thomas Gary, B.A.SC., Toronto — "An Investigation of Computer Control in Shipboard Helicopter Landing"

Storr, John Graburn, B.ENG., Carleton — "Some Aspects of Autocorrelation Function and Power Spectrum Measurement"

Zimonyi, Imre, B.A.SC., British Columbia — "Theoretical Study of a Broad-band Matching Device at Microwave Frequencies"

MATERIALS

Burbidge, George A., B.ENG., Carleton — "An Electron Beam Welding System"

MECHANICAL

Davis, Willard Roland, B.ENG., Carleton — "The Numerical Solution of the Radial-Equilibrium Equation for Swirling Flow in Arbitrarily Shaped Ducts"

Hamer, Michael John, B.ENG., Carleton — "Pressure Distribution on Rotating Disks: Redesign of the Test Facility and Further Studies of the Mean Pressure Field"

Hancox, William Thomas, B.ENG., Carleton — "The Design of an Annular Wind Tunnel for the Study of Swirling Flows"

Khalil, Tewfik Boshra, B.SC., Ain Shams University — "A Photoelastic Polariscope Design"

Thompson, Charles Robert, B.SC.(ENG. PHYSICS), Alberta — "Pneumatic Control Systems (Analysis, Modification and Calibration of Five Selected Systems)"

Fine Arts

The President's Fine Arts Committee sponsored four public concerts in honour of Canada's Centennial in September and October, 1967. Supported by a grant from the Centennial Planning Branch of the Department of Tourism and Information of the Province of Ontario, this series was designed to present Canadian artists of established or growing reputation. Each program, ably arranged and managed by Mr. Andrew Jeffrey, included one or more works by Canadian composers, and a number of the Canadian compositions received their first Ottawa public performance at Carleton. The series opened with a recital by Montreal pianist, John McKay, whose program included works by Jacques Hétu. A highlight of Lois Marshall's recital was a group of songs by John Beckwith, Oscar Morawetz, and Healey Willan. The third concert, clarinetist Alban Gallant performed a work by Srul Irving Glick, and cellist Hélène Gagné, a composition by Violet Archer, in each case with John Newmark at the piano. The closing concert of the series was presented by the Northern Sinfonia Orchestra from Newcastle upon Tyne, England, under its Canadian conductor, Boris Brott. The program included *Astral Vision*, No. 2, by the conductor's father, Dr. Alexander Brott, who was present at the concert.

Four additional concerts, also arranged by Mr. Jeffrey, were held in the annual Chamber Concert Series: The Warsaw Quintet, the Contemporary Chamber Ensemble, John Boyden, baritone, and the Early Music Quartet.

The addition of the St. Patrick's College division considerably enlivened and enriched the cultural scene at Carleton in 1967-68. Although the formation of a St. Patrick's Arts Committee did not occur until late in the academic year, the enthusiastic cooperation of staff and students resulted in several art exhibitions. Two of these were of students' art, including montages and mobiles. An exhibition of photography was arranged by Mr. Paul Gaffney of the Still

Division of the National Film Board, and an exhibition of prints was arranged by Mrs. Ensor of the Wells Gallery, Ottawa. The committee also sponsored a poetry reading night and a playwright competition for students.

In collaboration with the Association of Universities and Colleges of Canada, the main campus Department of Art brought three distinguished art historians to Carleton in October and November for a Centennial Lecture Series. Professor George Swinton of the University of Manitoba presented three lectures entitled: "New messages and media", "Old messages and art", and "Where the rub lies". Professor André Chastel of the Sorbonne spoke on the "Renaissance dialogue between North and South" and "La singularité de l'urbanisme parisien". Professor Rudolf Wittkower discussed "Neoclassicism, the landscape garden, China and the Enlightenment" and "Bernini as sculptor".

The delightful small art gallery on the ninth floor of the Loeb Building drew increasing interest during the year. Five exhibitions were shown, including four prints from the permanent Carleton collection which were exhibited in the National Gallery's "Three hundred years of Canadian Art", African Art from the collection of Mrs. A. Armstrong, Four Canadian sculptures, Contemporary Canadian Art from the Montreal Museum of Fine Arts, and new acquisitions from the growing Carleton collection.

The 1967-68 theatrical season at Carleton indicates the development of a truly "international" theatre. *The Zoo Story* by the American playwright Edward Albee was presented in October by the Departments of English and Fine Arts which also sponsored a production in March of *The Firebugs* by the Swiss playwright Max Frisch. Both plays were directed by Mr. Patrick Dunn.

The Sock 'n Buskin Drama Club presented *Hamlet* as its major production in December. *Hamlet*, which was directed by Candace O'Connor, starred Ray Jewers who is now in England preparing for a career in the professional theatre. In February, a new Canadian play was performed under the direction of Bill Lothian, president of the Sock 'n Buskin. *The Trial* was written by Charles Crutchlow who is an English major at Carleton. The play was an indictment of a society which continues to violate an individual's freedom.

In March, Miss Madeleine Gobeil of the French Department directed one of Eugène Labiche's popular comedies *Le Voyage de Monsieur Perrichon*. The theatrical season ended with two plays by a new drama group sponsored by the Spanish Department. This

group, called El Corral de Don Fernando, was formed under the direction of Dr. Fernando de Toro-Garland. The first play, directed by Madeleine Pelletier, was *El Bigote Rubio* by Miguel Ramos Carrión. This one-act comedy was followed by Dr. Toro-Garland's production of *El Burlador de Sevilla y Convidado de Piedra* by Tirso de Molina.

The first theatre "workshop" was formed by Mr. Dunn to provide the students with a knowledge of technique in acting. The enthusiasm engendered by the workshop, the addition of a new drama group and the presentation of original campus drama indicate that the past year formed a viable basis for the future of theatre at Carleton University.

MARILYN MARSHALL,
Chairman, Fine Arts Committee

Extension Program

The Extension program showed a slight decrease in number of and enrolment in non-credit courses in 1967-68 with 1,556 students enrolled in 29 courses as compared to 1,632 in 33 courses the previous year. Thirteen courses given in 1966-67 were not repeated this year. The following eight new courses were offered for the first time: Cost Accounting System, Rabindra Nath Tagore, The Practice of Management Communication, Technical Reporting and Effective English, Public Service Commission Training, Mental Health, West Indian Literature, Urban Economics. In terms of enrolment, the most heavily patronized courses continued to be the R.I.A. courses, the S.I.C.A. accelerated courses, Nursery School, and Effective Reading Improvement. Although some 1966-67 courses were not continued and others showed a drop in attendance, most of the courses repeated in 1967-68 had a significant increase over the previous year, especially The Art of Film, Language and Human Communication, Effective Reading Improvement, and Middle-line Managers. Among the newcomers Urban Economics, Mental Health, Public Service Commission Training, Technical Reporting and Effective English and The Practice of Management Communication showed the highest enrolments.

Close to 9,000 persons attended a wide variety of public lectures on the Carleton campus. By far the most popular series was the one sponsored by the Committee on Soviet and East European Studies in January, February and March, 1968, under the general title "The Soviet Union since Khrushchev". The public response to the series was so enthusiastic that the Committee sponsored a special supplementary lecture on March 22 by Professor Richard Lowenthal from the Free University of West Berlin. Professor Lowenthal's topic was "The General Development of Soviet Politics since Khrushchev". The audience reached an estimated 450, giving an estimated total audience of 4,000 for the eight lectures, or an average of 500 people per lecture.

The Geography Department's "Man and the Land" series was also well received with 1,300 persons attending the seven lectures which ran from September to November, 1967.

Audiences ranged from 70 to 180 for the five lectures in the "Classical Mosaic" series sponsored by the Department of Classics, the largest being that for Professor Well's lecture "The Roman Army and the Jews" on December 2, in spite of the rival attractions of the Grey Cup also held in Ottawa on that date.

The last three Centennial lectures on Canadian literature were held in October, 1967, and accounted for 500 of the total attendance figure of 9,000 given above.

One of the highlights of the year was the lecture on November 24, 1967, by Professor Northrop Frye who spoke on the topic "Comparative Literature: What gets Compared?" This lecture which from all reports met the expectations of all those present was delivered before an overflow crowd.

Among the many other lectures given throughout the year subsidized by the Adult Education Committee was the scholarly address on the social implications of the use of "tu" and "vous" as forms of address in French Canada by Professor Wallace E. Lambert of McGill University, one of the world's leading authorities on psychological aspects of bilingualism.

The modern language departments again enriched the academic community with a wide variety of lectures which occasionally included poets and writers reading from and commenting on their own work. Particularly noteworthy in this respect were the Departments of German and Spanish. The lectures sponsored by the Department of French were held before enthusiastic audiences, particularly for Professor S. Taylor, who spoke on "Voltaire, Rousseau and the Artist; The Enlightenment in Art" on March 29. The Department of Russian presented a lecture by Gleb Stuve, eminent scholar and literary critic from the University of California at Berkeley, currently with the Department of Slavic Languages and Literatures, University of Toronto. He spoke on "The Soviet Literary Scene: Some Recent Developments". On March 28th, in one of the final lectures of the year, the Spanish Department presented Antonio de Undurraga, Chilean Charge d'Affaires in Tegucigalpa, Honduras, and one of the best living Spanish American poets, titled "Myth and the Dynamics of History".

R. L. JACKSON,
Chairman, Adult Education Committee

The Library

The most notable event of the year was the merger with St. Patrick's College and the School of Social Work and the hasty decision to undertake centralized acquisitions and cataloguing for the two branch libraries. All library departments and department heads are to be congratulated upon the way in which they met the additional responsibilities, which suddenly devolved upon them.

I wish to pay special tribute to the work of Mrs. Carter, Chief of Technical Services and of Miss Jackson, Chief Cataloguer. The library materials budget for the main library increased from \$358,048 to \$493,000. The budget to be spent for the three libraries combined was over \$532,000. The Technical Services Division coped with this budget and an increase in the number of orders received from 21,870 in 1966/67 to 52,247 in 1967/68. One order in every three for the main library could not be placed because the title was already in the library or on order. Mrs. Carter and Miss Jackson organized the acquisitions, cataloguing and reclassification for the two branches at short notice, pioneered a new method of card reproduction with a Polaroid camera, developed a training program for library technicians under Miss Honeywell, and reorganized the flow of work in the Cataloguing Department to develop small cohesive subject groups within the staff of some 62 people. Several projects for the main library had to be set aside in order to deal with work for the branches. However, a cataloguer was given to the Acquisitions Department to be Periodicals Librarian and guided the Periodicals Section and our new bindery through a very successful year. In April, a cataloguer was made responsible for the selection of documents and was able to complete a statement of collection policies. In May, the monumental task of putting classification numbers on the periodicals was begun. Unbound volumes are being counted so that we will no longer rely upon estimates of space occupied. The Catalogue Department has become the training ground for all parts of the library. Members were

lent to Acquisitions and one transferred to Reference; a total of 300 hours was spent at the St. Patrick's Campus primarily in the School of Social Work Library.

One of the most interesting developments of the year was the undertaking of increased responsibility for book selection. The position of Book Selection Coordinator was deleted from the budget leaving the University Librarian and others to carry out the duties involved. This was very unsatisfactory but a number of the cataloguers are to be congratulated upon their work as subject specialists, working in liaison with faculty members. The total number of hours spent by cataloguers was the equivalent of one full-time professional for one year. All the staff involved in book selection and in book buying enjoyed it, several wishing to transfer to book selection on a full-time basis. All the staff found the split assignment unsatisfactory, so it is a source of great satisfaction to know that next year we will have a separate Book Selection Unit with full-time book selectors.

The formulation of book selection policies has long been a cherished objective. It is a great pleasure to note that Miss Litman has written up working drafts for Economics, French, Geography, History and Sociology and that she expects to complete International Affairs and Political Science. Mrs. Pavars has written drafts for the Sciences and Engineering. These formulations of policy include analyses of existing collections, information about related collections in Ottawa and Ontario universities and outlines of departmental interests.

As a result of illnesses, transfers and other hazards, the Acquisitions Department began the year with many untrained staff members and inadequate organization. Mrs. Carter has reorganized and written up many of the work routines, and the Department can face the prospect of a greatly increased book budget with equanimity. They deserve hearty commendation for having succeeded in spending the total budget for the main library in spite of serious delays in the delivery of books from July to the beginning of April.

As of June 30, 1968 most of the collection has been accessioned and consists of 178,195 books, 35,804 documents, 29,134 bound periodicals, 13,599 unbound periodicals, 399 theses, a total of 257,131 volumes; to which should be added 74,255 items comprised of 1,979 microfilm reels, 71,888 microfiche and cards, and 388 discs making a total collection of 331,386. The total added during the year was 51,986 volumes, 59,169 microforms and 4 discs. In the process of accessioning and counting some of the totals reported earlier were found to have been in error, notably the estimated

figure for unbound periodicals, which had been based upon shelf space occupied.

The Circulation Department coped efficiently with a total recorded circulation of 290,675, of which St. Patrick's College students accounted for about 3 per cent. This was a 29 per cent increase over the previous year. A count of books borrowed for home use from the beginning of January to the end of April shows that St. Patrick's College students borrowed 5,154 books from the main library and 7,700 from the College library. Students from the Rideau River Campus borrowed 839 books from the College library.

The Circulation Department coped almost too efficiently with an increase of almost 100 per cent in the number of books placed on reserve. A study made by the University of Waterloo Library showed that with an estimated 23,000 books on reserve Carleton had a much higher number than other Canadian universities. Miss Turner is making a thorough analysis of reserve circulation. She finds that the loan period of many of these books should not have been limited, and faculty members are agreeing to the removal of books from reserve.

Although the inventory has not yet been completed, it has become obvious that losses have increased greatly. This probably results from a decrease in dedication on the part of the student prefects on duty at the exit. The President of the Students' Council has volunteered to take steps to remedy the situation.

A space utilization survey was made for one week in January and one week in March. The highest number of seats occupied at any one time was 778. As the library now contains 1,425 seats, these findings make it possible to plan to increase book capacity rather than seating accommodation in this building, thus postponing the need for a Science/Engineering Library for one year. The count of volumes used in the library and not charged out was 30 per cent higher than recorded circulation in the two weeks surveyed.

Hours of opening as a study hall were extended in July 1967 and at Easter 1968. A further extension to midnight is planned for winter 1968/69.

The Reference Department doubled in size and moved to spacious quarters in October. The orientation program and exercises in the use of the library were revised and simplified, making it likely that up to 2,000 entering students can be given orientation and instruction during a relatively brief period of time. This program should now become compulsory for St. Patrick's College students, as many of them required elementary assistance at the Reference Desk during

the winter.

Telephone circulation service for faculty members was inaugurated in December at the request of members of the Faculty of Engineering. The service was not used as much as expected and was used equally by members of the Arts, Science and Engineering faculties.

A determined effort was made to obtain copies of all faculty reading lists. A total of 107 was checked, all titles being included in a master file and duplicates and replacements ordered as required. Incoming interlibrary loans increased by 62 per cent and outgoing by 66 per cent. In September an inter-university transit system was inaugurated to carry interlibrary loans from university to university in Ontario, including also the National Library and the National Science Library. The system carried 1 047 items for Carleton, 42 per cent of items borrowed and 26 per cent of items lent.

The Reference Department took over responsibility for the servicing of the collection of some 260 current university calendars, which are for use in the library only. The collection was much used throughout the year but few calendars were stolen.

Two major projects occupied the Science Librarian during the year, the development of book selection policies and the planning of the Science/Engineering Library. One-hour seminars on the use of engineering literature were given to three groups of fourth-year engineering students. The Science Bibliographer prepared exercises in the use of the library for freshmen in science and engineering. When this task was completed she assumed responsibility for verifying science and engineering interlibrary loans. She also did much of the work in collating the replies of Ontario universities to the Downs Survey questionnaire on collections. This collation and the directory of libraries in Ottawa are to be used in formulating policies for building research collections at Carleton.

The most noteworthy gifts received were \$18,000 from the Canada Council and 118 cartons of documents from the University of British Columbia. Professor and Mrs. Frank Underhill added to the volumes of Canadiana and other literature which they had given earlier. Many gifts were received from governments, embassies and private individuals. The library has become a depository for the publications of the European Economic Community and on a limited basis for the Organization for Economic Cooperation and Development.

HILDA G. GIFFORD,
Librarian

Report of the Registrar

The tables which follow illustrate the continuing rise in student enrolment at Carleton. The number of full-time day students enrolled in the University and studying on the Rideau River campus totalled 4,255, an increase of 14.25 per cent over the preceding year. When however, the St. Patrick's College division of the Faculty of Arts, which joined the University in July, is added, this figure is increased by 912 (or 18 per cent of the total) to make a grand total of 5,167 students or an increase of 38.74 per cent over the previous year. Registration in the evening division reached 3,497 (including 413 students or 12 per cent of total from St. Patrick's) an increase of 23.61 per cent. Summer School increased by 6.33 per cent, to a total of 2,368 students.

Sixty-seven per cent of the student body came from the Ottawa area (including Hull and district); the remainder were mainly from other districts in Ontario and Quebec, but included representatives of every province and of 46 (West Indies counted as 1) countries outside Canada.

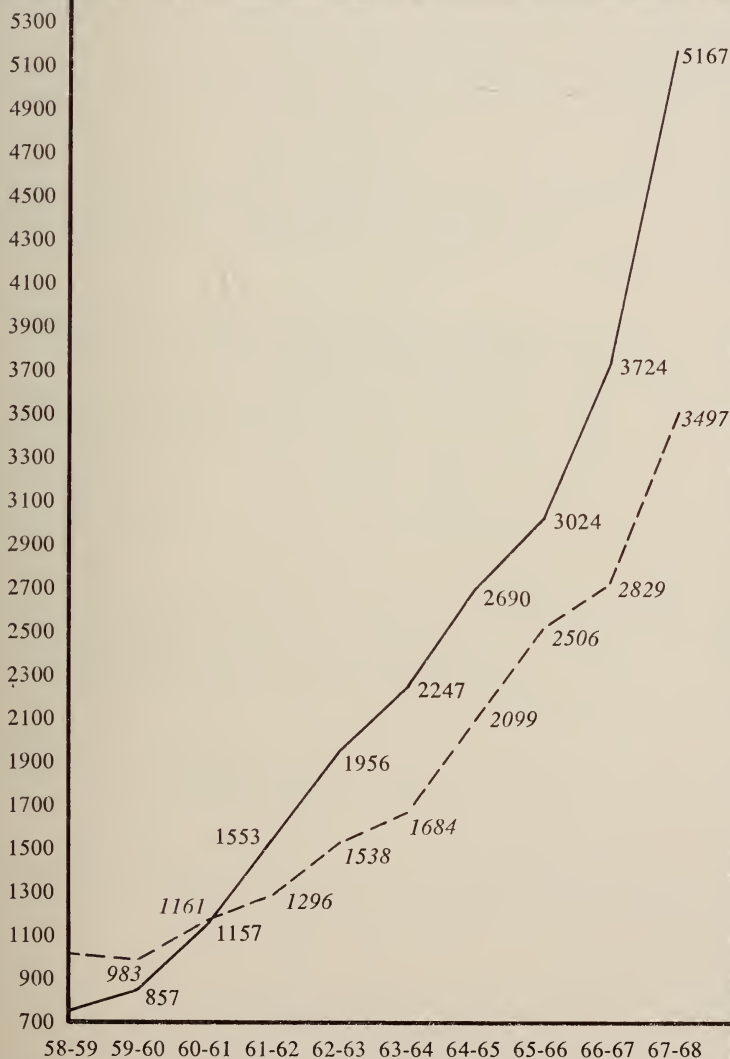
There were 3,764 applications for admission to the first university year (Rideau River campus only). Of these 2,281 met our requirements and 1,054 registered in September. No student who met the minimum published requirements was refused admission.

JOHN NICOL,
Registrar

CARLETON UNIVERSITY ENROLMENT

1958-59 TO 1967-68

FULL-TIME ——— PART-TIME - - - -



RIDEAU RIVER CAMPUS
and **ST. PATRICK'S CAMPUS COMBINED**

ENROLMENT, FULL-TIME DAY DIVISION 1967-68*

Qual.	I	II	III	IV	Grad.	Cert.	Spec.	Total	Total	
								1967-68	1966-67	
Arts	178	1049	922	691	119	200	—	—	3,159	2,778
Science	90	277	206	145	37	81	—	—	836	791
Commerce	9	90	91	79	2	—	—	—	271	286
Engineering	—	187	143	88	51	63	—	—	532	453
Journalism	17	76	58	31	14	—	—	—	196	167
Pub. Admin.	—	—	—	—	—	61	1	—	62	73
Social Work	—	—	—	—	—	85	—	—	85	81
Special	—	—	—	—	—	—	—	26	26	11
Totals	294	1679	1420	1034	223	490	1	26	5,167	4,640

*Figures compiled 1 December 1967

RIDEAU RIVER CAMPUS
ENROLMENT, FULL-TIME DAY DIVISION 1967-68*

	Qual.	I	II	III	IV	Grad.	Cert.	Spec.	Total	Total
									1967-68	1966-67
Arts	97	767	691	510	119	200	—	—	2,384	2,028
Science	90	277	206	145	37	81	—	—	836	791
Commerce	9	87	69	56	2	—	—	—	223	205
Engineering	—	187	143	88	51	63	—	—	532	453
Journalism	17	76	58	31	14	—	—	—	196	167
Pub. Admin.	—	—	—	—	—	61	1	—	62	73
Special	—	—	—	—	—	—	—	22	22	7
Totals	213	1394	1167	830	223	405	1	22	4,255	3,724

*Figures compiled 1 December 1967

ST PATRICK'S CAMPUS
ENROLMENT, FULL-TIME DAY DIVISION 1967-68*

	Qual.	I	II	III	Grad.	Spec.	Total	Total
							1967-68	1966-67
Arts	81	282	231	181	—	—	775	750
Commerce	—	3	22	23	—	—	48	81
Social Work	—	—	—	—	85	—	85	81
Special	—	—	—	—	—	4	4	4
Totals	81	285	253	204	85	4	912	916

*Figures compiled 1 December 1967

RIDEAU RIVER CAMPUS
and ST. PATRICK'S CAMPUS COMBINED

GEOGRAPHICAL ORIGINS, FULL-TIME DAY STUDENTS 1967-68

CANADA: (4,817)

Ottawa and district (3,316); other Ontario centres (907); Hull and district (134); other Quebec centres (276); Newfoundland (11); Nova Scotia (30); Prince Edward Island (4); New Brunswick (23); Manitoba (24); Saskatchewan (31); Alberta (30); British Columbia (25); Yukon (1); Northwest Territories (5)

EUROPE: (24)

Britain (11); Belgium (1); West Germany (5); Greece (2); Italy (1); Netherlands (1); Spain (1); Switzerland (2)

AFRICA: (41)

Botswana (1); Cameroon (4); Ghana (5); Kenya (2); Lesotho (1); Malawi (3); Mauritius (1); Nigeria (5); Sierra Leone (1); South Africa (1); S. Rhodesia (5); Tanzania (6); Tunisia (1); Uganda (3); Zambia (2)

MIDDLE EAST: (9)

Iran (3); Israel (2); Malta (3); Syria (1)

ASIA: (133)

Brunei (1); Hong Kong (52); India (25); Indonesia (3); Japan (3); Malaysia (17); Nepal (1); Pakistan (12); Singapore (3); Taiwan (8); Thailand (6); Vietnam (2)

AUSTRALASIA: (3)

Fiji (1); New Zealand (2)

WEST INDIES: (61)

Antigua (8); Barbados (9); Bermuda (2); Grenada (5); Jamaica (19); St. Lucia (1); St. Vincent (2); Trinidad and Tobago (15)

AMERICA: (73)

United States (58); British Honduras (4); Brazil (1); Colombia (3); Guyana (5); Peru (1); Venezuela (1)

UNSPECIFIED: (6)

RIDEAU RIVER CAMPUS

GEOGRAPHICAL ORIGINS, FULL-TIME DAY STUDENTS 1967-68

CANADA: (3,939)

Ottawa and district (2,765); other Ontario centres (689); Hull and district (96); other Quebec centres (248); Newfoundland (7); Nova Scotia (21); Prince Edward Island (1); New Brunswick (20); Manitoba (18); Saskatchewan (23); Alberta (25); British Columbia (21); Yukon (1); Northwest Territories (4)

EUROPE: (22)

Britain (10); Belgium (1); West Germany (5); Greece (2); Italy (1); Netherlands (1); Switzerland (2)

AFRICA: (40)

Botswana (1); Cameroon (3); Ghana (5); Kenya (2); Lesotho (1); Malawi (3); Mauritius (1); Nigeria (5); Sierra Leone (1); South Africa (1); S. Rhodesia (5); Tanzania (6); Tunisia (1); Uganda (3); Zambia (2)

MIDDLE EAST: (9)

Iran (3); Israel (2); Malta (3); Syria (1)

ASIA: (126)

Brunei (1); Hong Kong (46); India (25); Indonesia (3); Japan (3); Malaysia (17); Nepal (1); Pakistan (12); Singapore (3); Taiwan (7); Thailand (6); Vietnam (2)

AUSTRALASIA: (3)

Fiji (1); New Zealand (2)

WEST INDIES: (53)

Antigua (5); Barbados (8); Bermuda (2); Grenada (5); Jamaica (17); St. Lucia (1); St. Vincent (2); Trinidad and Tobago (13)

AMERICA: (57)

United States (42); British Honduras (4); Brazil (1); Colombia (3); Guyana (5); Peru (1); Venezuela (1)

UNSPECIFIED: (6)

ST. PATRICK'S CAMPUS

GEOGRAPHICAL ORIGINS, FULL-TIME DAY STUDENTS 1967-68

CANADA: (878)

Ottawa and district (551); other Ontario centres (218); Hull and district (38); other Quebec centres (28); Newfoundland (4); Nova Scotia (9); Prince Edward Island (3); New Brunswick (3); Manitoba (6); Saskatchewan (8); Alberta (5); British Columbia (4); Northwest Territories (1)

EUROPE: (2)

Britain (1); Spain (1)

AFRICA: (1)

Cameroon (1)

ASIA: (7)

Hong Kong (6); Taiwan (1)

WEST INDIES: (8)

Antigua (3); Barbados (1); Jamaica (2); Trinidad and Tobago (2)

AMERICA: (16)

United States (16)

RIDEAU RIVER CAMPUS and ST. PATRICK'S CAMPUS COMBINED

DEGREES, DIPLOMAS, AND CERTIFICATES AWARDED NOVEMBER, 1967, AND MAY, 1968

First Degrees

*Bachelor of Arts (B.A.)	594	
Bachelor of Arts (with honours)	89	
*Bachelor of Commerce (B.COM.)	78	
Bachelor of Engineering (B.ENG.)	49	
Bachelor of Journalism (B.J.)	40	
*Bachelor of Science, Social Sciences (B.SOC.SC.)	2	
Bachelor of Science (B.SC.)	94	
Bachelor of Science (with honours)	32	(978)

<i>Post-Graduate Degrees</i>		
Master of Arts (M.A.)	70	
Master of Engineering (M.ENG.)	27	
Master of Science (M.SC.)	15	
Master of Social Work (M.S.W.)	34	
Doctor of Philosophy (PH.D.)	11	(157)

<i>Diplomas</i>		
Public Administration (D.P.A.)	30	(30)

<i>Certificates</i>		
Public Service Studies (C.P.S.S.)	15	(15)
*Conferred at St. Patrick's Campus: 170 (B.A.)		
	21 (B.COM.)	
	2 (B.SOC.SC)	

RIDEAU RIVER CAMPUS

DEGREES, DIPLOMAS, AND CERTIFICATES AWARDED
NOVEMBER, 1967, AND MAY, 1968

<i>First Degrees</i>		
Bachelor of Arts (B.A.)	424	
Bachelor of Arts (with honours)	89	
Bachelor of Commerce (B.COM.)	57	
Bachelor of Engineering (B.ENG.)	49	
Bachelor of Journalism (B.J.)	40	
Bachelor of Science (B.SC.)	94	
Bachelor of Science (with honours)	32	(785)

<i>Post-Graduate Degrees</i>		
Master of Arts (M.A.)	70	
Master of Engineering (M.ENG.)	27	
Master of Science (M.SC.)	15	
Doctor of Philosophy (PH.D.)	11	(123)

<i>Diplomas</i>		
Public Administration (D.P.A.)	30	(30)

<i>Certificates</i>		
Public Service Studies (C.P.S.S.)	15	(15)

ST. PATRICK'S CAMPUS

DEGREES AWARDED

OCTOBER, 1967 AND MAY, 1968

First Degrees

Bachelor of Arts (B.A.)	170	
Bachelor of Science, Social Sciences (B.SOC.SC.)	2	
Bachelor of Commerce (B.COM.)	21	(193)

Post-Graduate Degrees

Master of Social Work (M.S.W.)	34	(34)
--------------------------------	----	------

Student Affairs

REPORT OF THE DEAN OF STUDENTS

Among the developments of the year were the completion of plans for the University Centre, the formation of a joint committee to study the University Bookstore operations and a Commission on Student Discipline.

The residences enjoyed a generally unexceptional year which is another way of saying that wise leadership was provided by the Students' Councils in residence and by Dr. C. M. Marsden (Acting Provost) and senior residents Miss Naomi Griffiths, Miss Mary-Louise Funke, Mr. William Fraser and Mr. Norman D. Fenn.

The construction of new residence accommodation for men and a dining hall for the residence was begun and progress on these important buildings has been encouraging. Preliminary discussions were held on the problems of providing residences for graduate students including provision for family units.

The High School Liaison Office began auspiciously and energetically under Mr. James Seigny during this year and is already a well established component of the University. Mr. Seigny made formal visits to 55 schools ranging from Mount Royal in Montreal to Sault Ste. Marie and Toronto. He also persuaded an impressive number of faculty and other staff members to participate in his program both off-campus and in speaking to visiting groups from high schools at the University.

Mr. André Elbaz who is able to spare sufficient time from his duties as a faculty member in the French Department to act as Overseas Student Adviser has had a very busy year in his latter capacity. The numbers of students from abroad at the University continues to increase each year. Mr. Elbaz has found no inverse diminution of occasions for consultation.

During the fall of 1967 Mr. R. A. Brown, who coordinates Freshman Orientation, had the opportunity to assess the effects of the

additional insights provided by a joint student-faculty committee concerned with this activity. Another summer of committee meetings should provide for further changes in the program next year.

Reports from the Awards Office, Housing and Placement Office, High School Liaison Office, Athletic Department and Students' Council follow.

R. A. WENDT,
Dean of Students

FINANCIAL AID TO STUDENTS 1967-1968

A. Awards Administered by Carleton University

1. Scholarships

C.U. Undergraduate—Entrance	\$41,855	(87 in 1967; 25 continuing from previous years)
— <u>In-course</u>	\$37,135	(141)
St. Patrick's —Entrance	\$ 3,950	(12)
—In-course	\$ 7,650	(18)

2. Prizes

\$ 2,125 (32)

3. Bursaries

Undergraduate —Entrance	\$14,970	(77)
—In-course	\$48,751	(282)
Graduate (C.U.)	\$15,766	(67)
St. Patrick's School of Social Work	\$ 2,100	(5)

B. Awards or Funds Administered by Other Organizations but tenable at Carleton University

1. Department of University Affairs, Province of Ontario

Fellowships	\$168,000	(156)
Entrance Scholarships	\$ 29,600	(74)
Ontario Student Awards Program:		
Loans	\$987,313	
Grants	\$850,814	

Total Awards \$1,838,127 (1716)

2. Rehabilitation Services Branch,

Province of Ontario \$4,835 (9)

3. Department of Education, Province of Quebec:			
Loans	\$49,310		
Bursaries	\$29,410		
<hr/>			
Total Awards	\$78,720		
4. Children of War Dead			
(Education Assistance Act)	\$12,989.50	(25)	
5. Department of National Defence			
(ROTP)	\$27,445.00	(50)	
(UTPM)	3,967.50	(7)	
Other	1,814.00	(5)	
6. External Aid (Colombo Plan, United Nations			
Technical Assistance, Commonwealth			
Scholarships)	\$58,381.00	(120)	
7. Indian Affairs & Northern Development	\$ 4,652.50	(9)	
8. Miscellaneous (Scholarships from government			
agencies, service benevolent funds, etc.)	\$26,283.00	(65)	
9. Subsidization of Tuition Fees by			
Employing Agencies	\$ 5,714.00	(18)	
C. <i>Loan Funds Administered by Carleton University</i>			
Parker Loan Fund	\$67,493	(125)	
Small Loan Fund	\$18,778	(440)	
English-Speaking Union Loan Fund	\$ 65	(2)	
Royal Commonwealth Society Loan Fund	\$ 105	(2)	
School of Social Work Emergency			
Loan Fund (Pi Beta Phi)	\$ 275	(2)	
Miscellaneous	\$ 1,782	(12)	
D. <i>Canada Student Loans Plan</i>			
(Provinces other than Ontario and Quebec)			

	<i>Entering</i>		<i>In-Course</i>		<i>Graduate</i>		<i>Total</i>	
Alberta	\$2,780	(3)	\$6,660	(9)	\$1,800	(2)	\$11,240	(14)
British Columbia	—		4,700	(5)	2,730	(3)	7,430	(8)
Manitoba	600	(1)	2,850	(5)	1,300	(2)	4,750	(8)
Newfoundland	925	(1)					925	(1)
New Brunswick	4,000	(6)	5,700	(7)	2,000	(2)	11,700	(15)
Nova Scotia	5,588	(6)	6,000	(7)	700	(1)	12,288	(14)
Saskatchewan	1,000	(1)	3,220	(4)	3,000	(4)	7,220	(9)
	<hr/>		<hr/>		<hr/>		<hr/>	
	14,893	(18)	29,130	(37)	11,530	(14)	55,553	(69)

MRS. A. T. LOATES,
Awards Officer

OFF-CAMPUS HOUSING

The amalgamation of Carleton University and St. Patrick's College last year involved the merging of the Off-Campus Housing Service. The enthusiastic response of the Ottawa public to the local news media appeal for additional housing averted any serious shortage.

Accommodation in Ottawa South and the Glebe, although the most convenient, had to be supplemented by West End and East End areas in order to provide sufficient accommodation. Relisted with the Off-Campus registry were 1,406 rooms, as well as over 300 self-contained units.

Liaison was maintained with the Overseas Student Reception Committee and a new system of maintaining inspection information of the available homes was set up.

SUMMER EMPLOYMENT

The summer employment situation—after the Centennial peak year—seemed somewhat bleak for 1968. This coupled with the announcement of the Government freeze certainly had a deciding factor in the number of areas students made applications.

The reorganization of the summer employment section, however, enabled the Placement Office to have students in contact with employers within hours after a position was offered, therefore increasing the office efficiency and providing more positions for students.

Good liaison with Government areas and Industry has opened up jobs to Carleton students and at this point, although the position for 1968 was expected to be extremely bleak, a large number of students have been placed.

PART-TIME EMPLOYMENT

With an increase in the number of part-time positions offered to over 200 there was some improvement in the part-time employment situation. However, as in other years, senior students faced some difficulty in finding positions lucrative to them.

STUDENT PLACEMENT

Owing to the general economic situation there was some cut (i.e. from 160 to 145) in the number of major companies recruiting this year at Carleton. However, with 2,500 major company interviews held, last year's interview figure was exceeded by over 200. More emphasis is being placed for major recruiters on interviewing space between 1st November and 15th February (in accordance with the

U.C.P.A. recommendations) which taxes space and staff to capacity.

With the Government freeze in March of this year many Arts graduates, with their usual reluctance to decide their future earlier, were caught without offers of permanent employment. This emphasized the Placement Office's awareness of the need to encourage more employers to use the Placement Office in their efforts to employ graduate students.

New methods of contacting employers have been initiated and we also are endeavouring to ensure that final year students are aware of opportunities available.

MRS. N. J. TREMBLAY,
Housing & Placement Officer

REPORT ON THE 1968 GRADUATING STUDENTS (UNDERGRADUATES AND GRADUATE)

A. *Employment after graduation* (Positions accepted)

1. *Business and Industry* (Including C.A. firms, newspapers, etc.)

Arts	32	Commerce	14
Journalism	15	Science	19
Engineering	18		

Total 98

2. *Government Agencies* (Federal—including C.U.S.O.—provincial, civic and foreign)

Arts	79	Commerce	14
Journalism	1	Science	9
Engineering	9		

Total 112

3. *Teaching* (University, secondary, public and foreign)

Arts	65	Commerce	3	
Journalism	1	Science	12	1 in Mauritius
Engineering	2			

Total 83

293

B. *Further studies* (anticipated)

1. Continue in their respective disciplines:

Arts	98	Commerce	3
Journalism	0	Science	26
Engineering	6		

Total 133

Professional Areas

Education	28	O.C.E. Fall—54	Summer School O.C.E.
		—1	teaching in Mauritius
Law	8	Social Work	12
Bus. Admin.	8	Journalism	1
Medicine	3		
Dentistry	1		

Total 61

194

C. Scholarships, Assistantships, Grants, etc.

Arts: Ontario Fellowships	47
Woodrow Wilson	5
University Awards	5
Foreign Governments	2
National Research Council	1

Total 60

Some Universities: New York; Dayton, Ohio; Cornell; Essex, England; Dijon; Heidelberg, Berlin.

Science: Ontario Fellowships	18
Woodrow Wilson	2
National Research Council	17
University Awards	3

Total 48

Some Universities: Princeton, Chicago, Harvard

Engineering:

National Research Council	1
---------------------------	---

Total 1

Total 109

D. a) Others:

Arts	1—self employed
	64—contact made regarding employment
Journalism	8—contact made regarding employment
Commerce	12—contact made regarding employment
Science	14—contact made regarding employment
Engineering	4—contact made regarding employment

Total 103

b) Going Abroad:

Arts	14
Journalism	0

Commerce	0
Science	5

Total 19

112

E. Unreported (students undecided) 165

Summary: Entering employment

after graduation 293

Anticipated further studies

(post-graduate or

professional) 194 (+ 54 O.C.E.

Summer—1

Mauritius)

Going Abroad 19

Others 103

Unreported 165

774

+ 34 (with a Master of
of Social Work)

These people will continue with the Agencies
who have assisted them financially with
their training.

HIGH SCHOOL LIAISON OFFICE

This office was established in July 1967 with a twofold purpose in mind: firstly, to better prepare high school students for university and secondly, to attract good students to Carleton. The progress during this first year of operation has been both satisfying and pleasing but because of the vast amount of work to be done in this important area of high school—university transition, there is still a great deal more that can be accomplished.

Visits to schools, tours on campus, film loans and distribution of literature were among the regular activities carried out by the high school liaison office. As well, several special events were staged and this office gave assistance to the programs of some other departments.

A total of 73 separate visits were made into the high schools of Ontario and Quebec, resulting in Carleton representatives having direct contact with 27 per cent of the Ontario high schools. Approximately 1,100 students from 22 different schools visited the Carleton campus for the purpose of viewing facilities and listening to members

of faculty. The popular film *Campus on the Move* was loaned to 35 schools and seen by an estimated 6,300 high school students.

The response from the high schools was exceptional. Correspondence was received from 320 schools, a figure which accounts for 45 per cent of the secondary schools in Ontario as well as 57 Quebec schools. Every form of publication available was dispersed to the schools through the liaison office. The response for the booklet produced by the Arts Faculty, *Arts Subjects*, was so great that a second printing of 1,000 copies was soon exhausted.

A series of seven Saturday morning lectures, attracting some 300 students, was conducted for the purpose of introducing high school students to disciplines offered at the university level. Special lectures, such as the one on Molière delivered by Dr. W. B. Kay of the Department of French, were very well attended and well received. A quarterly bulletin, *Carleton Report*, containing pertinent information for students, teachers, and counsellors alike, is being mailed out to 800 secondary schools.

The departments of Spanish, Geography and Geology as well as the Faculty of Engineering were particularly active in high school liaison, staging programs of their own. The liaison office upon request, was able to cooperate in these and other functions.

Faculty and students alike assisted in staging the various activities of the high school liaison office, 53 faculty and countless numbers of Carleton students were actively involved in the program.

The many activities of this office would not have been possible if this outside help had not been forthcoming. It was truly a community effort.

J. L. SEVIGNY,
High School Liaison Officer

ATHLETIC DEPARTMENT

Seven intercollegiate championships, a merger of two growing athletic departments, membership acceptance into the most prestigious intercollegiate conference in Canada, and a \$400,000 addition to the athletic plant all made 1967-68 one of the most eventful years in the University's athletic history.

Championships were won by both the men's and women's curling teams, the women's tennis team and the basketball Ravens. The men's tennis, fencing and paddling teams also repeated their championship

performances of the previous year. The hockey team, under Coach Bryan Kealey, enjoyed a resurgence of interest while the football team moved up to third place in the Central Canada Intercollegiate Football Conference and was ranked seventh in the Nation.

The men's intramurals continued to flourish although the variety of activities was somewhat curtailed due to the delay of the gymnasium construction. A new intramural program was established for the men on the St. Patrick's campus and the women students of St. Patrick's joined the women's program on the Rideau River campus to add further enthusiasm for powder puff football. The remainder of the women's program, however, suffered some severe setbacks that will only be rectified when new facilities become available later this year.

On April 5, 1968 Carleton along with the University of Ottawa was admitted into the Ontario Quebec Athletic Association after months of delicate negotiations. Both Carleton and the University of Ottawa will play in the eastern division composed of McGill, Laval, Queen's and Montreal.

The western division already includes Toronto, McMaster, Guelph, Western, Waterloo and Windsor. Divisional winners will meet each year to determine OQAA championships before proceeding on to the college Nationals.

The merger of the athletic departments of St. Patrick's College and the University was most amicable and mutually beneficial. Athletes from St. Patrick's earned prominent positions on all Carleton teams and they brought with them some of their most colourful traditions and symbols. The shamrock has officially been incorporated into all Carleton uniforms, and with it came a great deal of good natured banter amongst the athletes. Less than a year ago no one had ever heard of green Ravens and black Shamrocks, but they exist now in great abundance at Carleton.

KEITH N. HARRIS,
Director of Athletics

STUDENTS' ASSOCIATION

Our past year at Carleton was one more of discovery than of purposeful change. It was a year in which the non-student members of the University and persons outside the University hopefully shared in this discovery of the difficulties and the potential of the University

environment. But this was most of all a year in which the students of Carleton learned more about themselves, about their own education practices, and about their society.

Maybe we have been naive; maybe we, as young people, are slow to comprehend. But we have begun to comprehend.

We want a creative, a tolerant, and a fulfilled social and intellectual environment in the University and its greater society. This is a social and intellectual environment that provides for greater self-determination and encourages the contribution of each and every member of the community. This is a goal that will call for change. A goal that does not call for destruction. A goal that does call for a radical student movement and a radical faculty movement, but not necessarily a radical university, not necessarily a radical student body, and not a radical society.

This past year we read in our newspapers of the violence and strife that occurred in many American and European universities. We at Carleton can neither celebrate nor be dismayed at our lack as yet of such an uprising. It is not violence that is the sole indicator of a radical student movement. It is not violence that ought to serve as a reliable indicator of change toward a creative, tolerant and fulfilled social environment. For all we know, all the violence and all the accusations in the world may never bring to Columbia, Brussels, or the Sorbonne the kind of change that we want.

For most crucial of all the steps to be taken towards real change in the University is first a thorough rethinking of our long-held and tradition-bound views of education. We may be wrong: education may be no more than a method of social persuasion. But if we are not wrong; if education is something other than social persuasion; if education is something more like the discovery of meaning, then our ways of educating must be changed as soon as absolutely possible.

Today, in our universities, we are not achieving the ideals of education even as they were enunciated years ago. We are not liberating minds, and we are not tolerating individual differences among persons and between generations. If it is true that the young must guard against self-righteousness and beware the self-deceit of newly acquired knowledge, then it is also true that things as they are, are never so right as to be beyond question and change. We understand that with age and endurance, both persons and institutions take on vested interests. But hopefully, these are vested interests that we are aware of, and can admit to, and can fairly assess in the face of alternatives.

This past year at Carleton we began the reorganization of our University. But all the reorganization in the world will do no good if the context of that reorganization, which is the practice of teaching and learning, does not change at Carleton.

This past year at Carleton we established a commission to reassess our present undergraduate instruction. But all the commissions and all the wise commissioners in the world will do no good if their deliberations and their recommendations do not lead to change in the practice of teaching and learning at Carleton.

This past year we even completed plans and readied for the construction of a much-needed, but costly Student Union. We chose to call our building the University Centre. But all the careful planning and all the money in the world will do no good if we don't perceive the student as something more than a candidate for a degree. The student is a person, no more, no less than the faculty member or the administrative officer or clerk. Sure enough and better still that, the student, the faculty member, and the departmental secretary may all differ in their ages, their interests, their incomes, and their extent of formal education. But they are all full members of the University, and they are all contributors to the University.

Those who argue that prestige and power in the university must be assigned according to academic experience frustrate the achievement of change in our methods of educating. It is this conception of the university that implies greater significance in teaching than in learning, and this at a time when we have begun to appreciate that there is little which one person can actually teach another, even though there is little that one cannot learn for himself.

This past year the students of Carleton learned more about themselves, about their practices of education, and about their society. They did so often in spite of the formal and recognized sources of teaching in textbooks and lecture halls. They learned without the fear of not achieving first or second class standing. They learned without the narrow perspective of most examinations. They learned through a self-gained experience, and not in a vacuum of experience.

And yet, we did not learn all that much. We did not escape the out-moded practices of education that persisted in our formal learning.

This was last year.

It need not be next year.

BERT PAINTER,
President, Students' Association

COUNSELLING AND HEALTH SERVICES

Aside from an increasing use by students of the Counselling and Health Services, the major change in 1967-68 in the program was brought about by the merger of St. Patrick's College with Carleton University. Efforts were made to meet the health needs of students at St. Patrick's College. A chest x-ray clinic was organized in September and a medical clinic was established on St. Patrick's College campus. The services of the University Consulting Psychiatrist were made available to the counselling services of St. Patrick's.

The medical clinic on the Rideau River campus operated at capacity through the year. There was an average of more than 500 visits each month. At the end of the year 3,505 students made 4,504 contacts with the clinic. Of these, 1,906 were seen by the University Physician.

The medical clinic on St. Patrick's College campus was open two hours a day, Monday through Friday; the University Physician was available for consultation twice a week. At other times, the health facilities on the other campus were available to students of St. Patrick's. Initially, because the service was new, few students took advantage of it; however, the number of contacts increased each month and the totals for the year show that more than 50 per cent of the student body made 903 visits to the clinic.

Generally, the health of Carleton students was excellent during the year. There were no serious epidemics, but there was a high incidence of flu and upper respiratory infection.

Statistics show a steady increase in student use of the counselling service. Students made 938 contacts from September through May; an increase of 400 over the previous year. (These figures do not include the contacts made with the counselling services on St. Patrick's College campus.) Of interest is the pattern of contacts during the year. In 1966-67 peak loads were reached in the middle of fall and winter months. During this year there was a low incidence of contacts in September, but for the remaining months there was a steady demand for counselling. Also a great many more students, experiencing anxiety and depression, made contact with the counselling service during the examination period than was true the year before. At present, there is no factual explanation for these pattern changes. Additional evidence and further study may provide more understanding as to the relationship of student use of the service with the emotional and social climate of the university. In fact, student health services in the United States and Canada are paying in-

creasing attention to the university environment and the learning experience of students. Also, there is an increasing need to understand in broader scope the university student. For it is an acknowledged fact that the primary approach of student health services should be preventative. Not only is this approach sound philosophically but practically, for as university populations grow the treatment facilities will be unable to cope with the increasing need.

During the past year the physical and mental health staff were working at full capacity; in fact, it became necessary for the psychiatrist to shorten the time of his interviews in order to see all the students referred to him. It is not felt that this increasing use of the health services is an indication that more students are necessarily physically or emotionally ill than in previous years. The explanation probably is increased student enrolment and the services are becoming better known. The demand for counselling possibly means that such an approach to problem solving is socially more acceptable. It must be remembered that most of the students seeking counselling are not chronically ill. Usually it is because they are not functioning in one or more areas of their lives to their satisfaction and they wish to do something about it.

As the program grows and greater understanding of student interaction with his environment is achieved, it is hoped the health services will be better able to serve the university community.

NORMAN D. FENN,

Director,

Counselling and Health Services

Alumni Association

The Alumni Association is made up of the more than 5,000 graduates and former students of Carleton whose interest it is to contribute to the growth and influence of the University.

The National Executive, based in Ottawa, determined a number of priorities for the year. Chief among these were the expression of alumni opinion on matters arising from the recommendations of the Duff-Berdahl Report; a revision of the Constitution of the Association to more adequately reflect the needs and future direction of the organization; creation of a solid relationship with the Alumni Associations of the newly acquired St. Patrick's College division; and improvement of liaison between Association headquarters and alumni throughout the country.

In January, the Executive submitted to members of Senate and the appropriate committee of the Board of Governors a brief defining alumni attitudes toward the Duff-Berdahl recommendations and how they should be implemented by the University. The brief stated that students should be guaranteed representation on departmental committees, but advocated that representation by any group on any other governing body of the University be granted in terms of access, not in terms of a group's rights.

The existing Constitution of the Association has been studied by a committee under the chairmanship of Mr. Charles L. Jeffrey, B.Sc. '58. This Constitution Committee also studied constitutions of many other alumni organizations and examined the basic structure and aim of Carleton's Association.

The National Executive met on several occasions with the executives of the St. Patrick's College Alumni Associations (Faculty of Arts and the School of Social Work) to discuss the relationship which is to exist among us. Alumni of Carleton and St. Patrick's College met one another at several functions during Homecoming Weekend in October.

During the summer, the Executive Secretary visited with graduates in Vancouver, Calgary, Edmonton, Winnipeg and Toronto to lay the foundations of organized branches in each city.

Mr. Fred E. Gibson, B. Com. '56, was appointed Chairman of the Alumni Annual Giving Committee. In Phase 2 of the Carleton University Campaign, alumni gave 565 donations totalling \$18,236. An appeal to alumni for contributions to the University Centre Fund raised \$6,257 by the end of June. Impetus was given to this appeal by a telephone blitz conducted in Ottawa under the leadership of Mr. James P. Robb, B.A. '50, B.J. '51.

The annual meeting of the Association, held during the October Homecoming, saw Miss Ruth Richards, B.Sc. '63, selected as National President.

Mr. Clifford T. Kelley, B.A. '54, was forced to resign as Vice-President, owing to business relocation, and was succeeded by Mr. Charles G. Watt, B.A. '57.

Mr. Fred E. Gibson, Past President of the Association, became one of three alumni representatives on the Board of Governors in the fall of 1967, when the three-year term of Mr. John G. Ratz, B.A. '56, expired.

Continuation of social events designed to keep alumni in touch with the University and with one another was an important part of the Association's function again this year. The major event was the second alumni-student Homecoming, which filled a fall weekend with the Panda Game, golf tournament, canoe race and float parade on the Rideau Canal, dances and parties. Co-chairmen were Mr. Ronald C. Lahey, B.Com. '65, for the alumni, and Mr. Rick Anderson for the students.

The Ottawa branch and the Alumnae Association held several social events and a party was held for Montreal alumni in April. The Alumnae Association continued to welcome and assist women students from overseas.

With the Spring Convocation in May, an additional 922 Carleton students became members of the Association, and were welcomed with a Graduation Dance sponsored by alumni.

BRIAN A. BLEVINS,
Executive Secretary, Alumni Association

Development Office

The last year has been active for Carleton's various development programs. Early in the year, the Board of Governors approved the establishment of the Development Executive Committee to co-ordinate our many appeals and Mr. F. K. Venables of the Board of Governors was appointed Chairman of this Committee whose members include the chairmen of our individual funds and appeals.

THE CARLETON UNIVERSITY CAMPAIGN

Our four-year Campaign for \$3,000,000 is now in the middle of its third year and by the end of June 1968 we had received \$2,336,843 from 890 companies and 8,950 individuals both in Ottawa and across Canada. While we can take heart from the progress of the Campaign and from the large number of donors we must also face the fact that we still must find almost \$650,000 by the end of 1969 if we are to achieve our goal. With our continually growing student enrolment, our building program is of the utmost importance and Mr. Venables and his large team of volunteer helpers face an imposing challenge in the final phase of the Campaign.

THE CARLETON UNIVERSITY CENTRE BUILDING FUND

Even though we are in the middle of a major capital campaign, the Board of Governors earlier this year approved the launching of a special campaign for \$250,000 to aid us in the building of the University Centre which is so urgently needed at Carleton. Mr. Grant MacCarthy agreed to be Chairman of this important appeal and he has recruited an excellent committee and team of volunteer canvassers. Of special interest is the high involvement of Carleton students working on this project and it is most stimulating to see student canvassers working with local businessmen. By the end of June 1968 we had received 953 gifts totalling \$53,544 and the canvass will continue throughout the months ahead.

BEQUEST PROGRAM

Our Bequest Committee under the leadership of Mr. A. B. R. Lawrence of the Board of Governors has continued its dissemination of information on estate-planning and the need of Bequests for Carleton and is paying special attention to contacting lawyers, chartered accountants, bankers and trust officers active in the estate-planning field both in Ottawa and the Ottawa Valley. The Committee is continuing its active study of the deferred-giving field and is currently examining the legal and tax implications in this area.

THE FRIENDS OF CARLETON

Mr. Ayton Keyes has continued as Chairman of our annual Friends of Carleton appeal for funds to aid scholarships and bursaries for students at Carleton and this year we have received 229 gifts totalling \$7,143.44 which will make possible 25 scholarships together with a further amount of bursaries for students in financial need.

THE SCHOOL OF ARCHITECTURE FOUNDING FUND

Carleton's new School of Architecture will accept its first students this fall and earlier this year we launched a special appeal to architects across Canada for scholarship and bursary aid for this new school. By the end of July 1968 we had received five annual scholarships and 76 gifts totalling \$6,246.

THE SCHOOL OF JOURNALISM 25TH ANNIVERSARY FUND

Next year sees the 25th anniversary of Carleton's first classes in Journalism and we are launching a special appeal this October to newspapers, radio and television stations across Canada for their support both for scholarship and bursary aid and for special projects to be undertaken in our School of Journalism.

THE ASSOCIATES OF CARLETON

We are particularly grateful for Mr. A. M. Laidlaw's leadership of the Associates of Carleton. At their annual meeting in October 1967 a motion was passed to change the date of the annual meeting to coincide with the eve of Spring Convocation and consequently a further annual meeting was held in May 1968. The meeting included tours of our campus and was highlighted by student participation in the activities. We are happy to report that 55 new members have accepted invitations from Mr. Laidlaw and the Board of Governors to join this important group of supporters of Carleton.

DEVELOPMENT OFFICE STAFF

Mrs. G. D. DuBreuil has been appointed Assistant to the Development Officer and is responsible for our programs in Bequests, Foundations and Alumni annual giving. It is of interest to note that the staff have processed over 2,604 gifts and 1,990 pledge payments during the last 12 months. This has only been possible through the continuing efforts of the large body of volunteers associated with our Development programs and by the generous support and interest Carleton receives from so many companies and individuals.

MICHAEL D. ROBERTS,
Development Officer

Information Office

In May, 1967, Canadian University Information Officers met at Laval University to discuss the creation of a formal organization. Last summer, at Calgary, such an organization was created during the annual meeting of Information Officers from most Canadian universities. I mention this to indicate that public relations/information activity at universities has begun to take on a new dimension. It has become apparent to those in the field that professional standards must be set and followed; that a much better system of information exchange is necessary; that association with the A.U.C.C. is desirable; and the university scene in general needs better media attention. This new dimension is considered necessary because the public has become more concerned with education: a fact demonstrated by the increased attention the press has paid to both news stories and in-depth reports from the university scene. There is hardly a move made by university administrators, faculty or students these days that does not, or could not become a public issue. And I see no let up in the near future. It is obvious that with increased student restlessness, dramatic physical expansion, the financial squeeze and increased demand for good faculty, university information/public relations staffs will find it difficult to keep up with demands.

Certainly the Information Office does not carry the largest load of public relations activity. Most of that activity goes on during the day-to-day contact with the University's various publics by all the members of the University—faculty, students, staff and alumni. However an Information Office does have a vital service to offer. Simply stated, this service is one of selection and programming of public relations/information objectives, in order that they complement the long range academic and physical development plans of the university. This selection is not an easy task. It demands a knowledge of university activity on a very broad front. It demands foresight and a sense of timing. It demands that the information staff know and understand the

various university publics. And it demands that you stay one jump ahead of the interested groups as diverse as corporation executives, students' parents, prospective students, alumni, fund raisers, the local Ottawa and Ottawa Valley community and the press. By operating in this fashion, we should be able to provide the necessary and satisfactory information and background to any of these publics when a problem arises or when a question is received.

In order to allow time for this more vital activity of program selection, planning and appraisal we have been moving, over the past year, to a more functional organization and hopefully, in time, to program budgets. Although this reorganization is a slow process when carried out with the normal operations of the Information Office, it should provide more time for planning and appraisal by streamlining day-to-day operations.

In January, we took the first step in creating this "functional organization". A News and Events Bureau was established to centralize activities in several fields: internal and external publicity through press releases and university bulletins; the execution of public ceremonies such as convocations, open house and award nights, which require printed matter and liaison with media for optimum coverage; the coordination of news stories for local radio, television, and newspapers; and a more effective method of internal communication with members of faculty and administration through visits at regular intervals. We stress the latter because we feel that a closer liaison with faculty and administration is directly correlated with the most effective information/public relations activity.

The probable next step will be the formation of a Publications Bureau. The aim here would be to attempt a better coordination of all publications within the University. This coordination would likely involve a standardization of corporate design to project a more easily recognizable single image to the various publics. Benefits should include lower costs and an increase in the efficiency of printing from various offices within the university. In addition, better publication coordination should serve to release faculty from the detailed planning, budgeting and production of a multitude of publications, that grow in numbers and variety year by year.

Over the past year, without forming a publications bureau as such, we have attempted to improve the quality and efficiency of publications produced by the Information Office alone, and those produced by us at the request of department chairmen. Examples of these are the redesigned format for the News Release, This Week, Arts Sub-

jects—What They Are and What They Lead To and the School of Architecture Founding Fund brochure. Work in this area and the response from within and without the University is encouraging. We are looking forward to more work in this field, so that next year we will be in a better position to assess how a publications bureau should function and what its role should be.

Further in the future, I see the possible need for a radio and television bureau: not to produce television shows but to work solely in the area of university information promotion through these media, whose needs are technically quite different from the print media. By complementing our newspaper and magazine coverage with an improved approach to electronic media we will be able to reach the university community more frequently.

Over the past year we have attempted to increase our contacts with the electronic media to acquaint ourselves with their particular needs for future planning. A by-product of this increased attention has been more coverage in the interim. Operating in this limited way we have managed to put Carleton people on the CBC International Radio Network; CBC-TV Montreal, Toronto and Vancouver; CBC Matinee; and a number of different local radio and television shows. In the months from January to May, Carleton people appeared on about 45 programs of one sort or another.

Staff changes over the year included the departure, after two and a half years, of Mrs. G. B. Patterson, B.J. (Carleton) who moved to Pembroke shortly after being appointed Acting Information Officer. This was most unfortunate because of the number of ideas she had hoped to work out during her time in office. Mr. Donald M. Pattison, B.A. (Carleton) returned as Information Assistant and took over the News and Events Bureau. Mrs. A. Midgley, B.A. (Carleton) was appointed Publications Officer to provide news media with feature material such as interesting research projects and graduate work. Miss Mae Roe resigned after six years with the University. Miss Roe's cheerful disposition and store of knowledge will be missed by the Information Office staff.

The past year has been one of internal examination and reorganization. I expect that next year we will see some concrete results for this year's effort.

GUY R. SIMSER,
Acting Information Officer

Report of the Bursar

In many ways the past year has been a relatively quiet though busy one for those connected with the business operations of the University. This does not mean that the year was not without interest or achievement. The opening of new buildings, the beginning of others, changes in organization, and the appointment of new people to new positions happen so frequently and are so familiar that we hardly notice them. I think this illustrates more than anything else that, insofar as business operations of the University are concerned, we have now become a large University.

Caught by both a rapidly changing technology and rapid growth, the university administrator finds himself more and more treating the problems that he is faced with in the terms of models, formulas, and programs instead of in terms of individual people. While it is necessary to use these tools to maintain and improve the services that we perform, it is also necessary that we do not lose sight of the individual, particularly those who fall outside the average. As we become more adept in the use of these new management tools we should be relieved of some of the time-consuming details and routine so that we have more time to provide help to the individual student and faculty member in the solution of their individual problems.

Even though the things that have happened in the past year have not had the same dramatic quality as activities have had in the past, there are a number of things which I would like to note at this time. The first is the integration of the administrative staff of St. Patrick's campus into the Carleton University operation. Given very short notice we were able, through the co-operative effort of the new and old staff, to make the necessary arrangements and changes caused by the acquisition of the new division. Beginning work in late June of last year, the staff at both the Rideau and St. Patrick's campus were able to complete all the documentation necessary so that the staff at St. Patrick's were on the University payroll in time for the

University to pay them in mid-July.

Almost at once it was necessary to begin planning for renovations to the old high school area at the St. Patrick's campus. I am pleased to report that the first part of these renovations was ready for students and faculty at the College when they returned in September. This program has continued throughout the past year and we are now beginning our third renovation project which will add to and improve the facilities on that campus. The acquisition gave new dimensions to many of our old problems and provided a variety of problems which had not been encountered before. While it is not possible to report that all these problems have been resolved, many have been and on the whole the experience this year bodes well for a satisfactory relationship in the future.

As has happened in the past, the Administration found last spring that it was occupying space which was needed by other users and it was decided that the administrative offices located on the second level of the Library should move to new quarters. Since it was not possible to find space for all of the offices in one location anywhere else on the campus, and because it was necessary to rearrange the various administrative departments so that officers whose work complemented each other's were kept close together, almost all the administration was involved in the resultant shuffle. Not only was immediate dislocation caused by the disruption of moving, but this scattering created a continuing problem. It was necessary to develop new patterns of formal and informal communication and all of the University community was given an opportunity for exercise, particularly when the elevators broke down, in the travels required of them between the administrative offices located in the basement of the Library and those which were located on the eighth floor of the Loeb Building.

Last year also saw the culmination of planning and the beginning of construction of a number of new major building projects. As forecast last year, the campus is once again scarred by new construction. In the last twelve months the University has started construction of a new Residence and Food Service building, the fourth block of the Engineering building, a new Controlled Environment Facility, a gymnasium addition, Administration building, an addition to the Boiler Plant, and further work on the roadways. In addition, final drawings were completed for the University Centre and the space programs were completed for a Geology building, a Science Engineering Library, an Arts I building and a Mathematics building.

Completion of some of this work provided solutions to problems which have arisen in the past. It has also provided a new set of problems, one of which will, whatever the solution, inconvenience many members of the University community. This is the provision of parking spaces adequate to the needs of the University community. Once construction begins on a number of projects now in planning, Parking Lot Number Two will disappear. The possible solutions to this problem are either expensive or inconvenient.

This year saw the announcement of a new Capital Assistance Policy by the Provincial Government. While it was most helpful financially, difficulties were experienced in the wait for, and the adjustment to, the new policy. Members of the planning committees were sometimes put to a great deal of extra work in the preparation of the revised submissions required.

Last year was the first in which the University operated under the new provincial formula system for financing operating expenses. Since the collection of information on the status of each student becomes critical information affecting almost all the University income one of the results of the implementation of this policy from an administrative viewpoint has been the recognition of the need for a higher degree of integration in certain of the functions of the Bursar, Registrar, and Computing Centre.

Add to this problem the development of a new method of recording registration statistics on a computer and a very interesting organizational problem develops.

If I were to give the year 1967-68 a name, I think I would call it the year of the questionnaire. It appears that all members of the external community, and other Universities, have developed questionnaires. These have covered a broad spectrum of university activities including such aspects as cost analysis, space utilization study, housing, control of traffic, and student finance. It is true that in answering questionnaires one often obtains a fresh insight into the policies and operations of one's own institution, but the quantity of work involved was large and has taken much valuable time.

On the following pages are the balance sheet for the University as on June 30, 1968, the summary statement of income and expenditure for the year 1967-68, and a statement of benefactions received in this past year.

F. J. TURNER,
Bursar

CARLETON UNIVERSITY

(Incorporated without share capital under the laws of Ontario)

BALANCE SHEET — JUNE 30, 1968

(with comparative figures at June 30, 1967)

ASSETS		1968	1967
CURRENT FUNDS			
Cash	\$	3,467	\$ 1,690
Accounts receivable (note 1)		269,638	181,681
Bookstore inventory, at cost		116,042	94,080
Prepaid expenses and supplies		108,915	97,013
Mortgages receivable		145,921	94,445
Due from endowment, plant and loan funds		824,324	857,081
		<hr/>	<hr/>
		1,468,307	1,325,990
Deficit		539,607	462,623
		<hr/>	<hr/>
		<u>\$ 2,007,914</u>	<u>\$ 1,788,613</u>
ENDOWMENT FUNDS			
Investments, at cost (quoted market value			
1968—\$1,056,631, 1967—\$960,567)	\$	1,015,864	\$ 894,914
Accrued interest on investments		9,253	8,533
Due from trustee		3,913	14,501
		<hr/>	<hr/>
		<u>\$ 1,029,030</u>	<u>\$ 917,948</u>
PLANT FUNDS			
Investments, at cost (quoted market value \$1,250)	—	\$	1,100
Mortgages receivable	\$	458	3,494
Due from trustee	—		7
Plant assets, at cost (notes 2, 3 and 4)		51,809,973	40,881,993
		<hr/>	<hr/>
		<u>\$51,810,431</u>	<u>\$40,886,594</u>
LOAN FUNDS			
Cash	\$	900	\$ 7,343
Loans receivable		205,426	178,264
Investments, at cost (quoted market value			
1968—\$111,292, 1967—\$116,931)		99,922	99,922
		<hr/>	<hr/>
		<u>\$ 306,248</u>	<u>\$ 285,529</u>

LIABILITIES

	1968	1967
CURRENT FUNDS		
Bank advances	\$ 204,510	\$ 816,114
Accounts payable and accrued liabilities	856,724	384,026
Unexpended specific research grants	430,943	287,534
Deferred tuition fees	162,485	67,825
Deposits on residence accommodation	30,342	25,528
Unexpended restricted current funds	179,570	115,292
	<hr/> 1,864,574	<hr/> 1,696,319
Deferred net income on operation of ancillary enterprises (notes 5 and 6)	143,340	92,294
	<hr/> <u>\$ 2,007,914</u>	<hr/> <u>\$ 1,788,613</u>
ENDOWMENT FUNDS		
Endowment funds principal	\$ 984,337	\$ 877,432
Net profit on sales of securities	21,921	21,182
Due to current funds	22,772	19,334
	<hr/> <u>\$ 1,029,030</u>	<hr/> <u>\$ 917,948</u>
PLANT FUNDS		
Plant funds principal	\$20,737,201	\$18,720,960
Mortgages payable (note 7)	2,835,170	2,849,050
Debentures payable (note 8)	27,294,363	18,373,595
Funds held for students union building	174,628	123,387
Due to current funds	769,069	819,602
	<hr/> <u>\$51,810,431</u>	<hr/> <u>\$40,886,594</u>
LOAN FUNDS		
Loan funds principal	\$ 273,765	\$ 267,385
Due to current funds	32,483	18,144
	<hr/> <u>\$ 306,248</u>	<hr/> <u>\$ 285,529</u>

F. J. TURNER—*Bursar*

A. B. LAROSE—*Controller*

CARLETON UNIVERSITY

STATEMENT OF INCOME AND EXPENDITURE AND DEFICIT

Year Ended June 30, 1968

(with comparative figures for 1967)

	1968	1967
INCOME		
Tuition fees	\$3,151,783	\$ 2,511,439
Government grants	8,318,648	5,196,577
Miscellaneous	51,268	55,878
Sponsored or assisted research funds	752,215	640,412
Ancillary enterprises (note 5)	—	20,134
	<hr/> 12,273,914	<hr/> 8,424,440
EXPENDITURE		
Instruction	7,422,179	4,977,485
Library	1,345,248	850,443
Administration	935,029	676,811
Plant operation and maintenance	1,525,982	933,199
Scholarships and bursaries	—	84,318
Miscellaneous	354,705	234,279
Extraordinary	15,540	38,608
Sponsored or assisted research funds	752,215	640,412
	<hr/> 12,350,898	<hr/> 8,435,555
Excess of expenditure over income	76,984	11,115
Deficit at beginning of year	462,623	451,508
DEFICIT AT END OF YEAR	<hr/> <u>\$ 539,607</u>	<hr/> <u>\$ 462,623</u>

NOTES TO FINANCIAL STATEMENTS

Year Ended June 30, 1968

1. ACCOUNTS RECEIVABLE

	1968	1967
Tuition fees	\$ 121,376	\$ 90,457
Other	178,262	116,224
	<u>299,638</u>	<u>206,681</u>
Less allowance for doubtful accounts	30,000	25,000
	<u>\$ 269,638</u>	<u>\$ 181,681</u>

2. PLANT ASSETS

	1968	1967
Land and land development	\$ 1,907,880	\$ 1,038,366
Buildings	41,094,878	32,919,087
Equipment and furnishings	8,807,215	6,924,540
	<u>\$51,809,973</u>	<u>\$40,881,993</u>

3. OUTSTANDING COMMITMENTS

As of June 30, 1968 total expenditure on plant assets amounted to \$51,809,973 which includes all billings to that date. In addition, commitments for further expenditures for plant assets existed at June 30, 1968 in the amount of \$8,317,812 and additional commitments have been authorized since that date in the amount of approximately \$965,700.

It is anticipated that the bulk of the funds to meet these commitments will be derived from the sale of debentures to the Ontario Universities Capital Aid Corporation.

4. DEPRECIATION

In accordance with University practice, no depreciation on plant assets has been provided in the accounts.

5. CHANGE IN ACCOUNTING TREATMENT

The University changed its policy during the current year with respect to the treatment accorded the results of operating ancillary enterprises, except for the results of operating parking lots which have always been deferred. From July 1, 1967 the results of operating all ancillary enterprises will be deferred. The effect of removing the results of operating these other ancillary enterprises from educational operations increases the excess of expenditure over income by \$48,004 for the year ended June 30, 1968.

6. ANCILLARY ENTERPRISES

Deferred net income on operation of ancillary enterprises at June 30 is as follows:

	1968	1967
Parking lots	\$ 95,336	\$ 92,294
Residences	59,561	—
Athletics	10,172	—
Bookstore	(9,828)	—
Student health services	(9,518)	—
Food services	(2,383)	—
	<u>\$ 143,340</u>	<u>\$ 92,294</u>

7. MORTGAGES PAYABLE

	1968	1967
Lanark and Renfrew Residences and University Commons		
5¾% due in 2014 payable in instalments of principal and interest of \$7,205 per month	\$ 1,361,344	\$ 1,367,327
Grenville and Russell Residences		
5¾% due in 2016 payable in semi-annual instalments of principal and interest of \$39,698	1,473,826	1,481,723
	<u>\$ 2,835,170</u>	<u>\$ 2,849,050</u>

8. DEBENTURES PAYABLE

Debentures outstanding at June 30, 1968 bearing interest at various rates and maturing at various dates between July 16, 1994 and June 15, 1998, are payable in annual instalments of principal and interest amounting to \$1,948,755 out of grants from the Province of Ontario.

Gifts and Grants for Current Operations

Province of Ontario \$ 8,213,231.00

Capital Grants and Gifts

Building and Development \$ 746,565.00

Endowment Gifts

Sydney W. Bradley Estate 1,000.00
 J. S. Cramm Estate 4,000.00
 H. Gill Estate 1,000.00
 International Affairs 100,000.00
 J. Lansing Rudd Estate 1,000.00

Gifts Unrestricted

S. Bressler Estate 100.00
 Carleton University Faculty Scholarship Fund .. 825.00
 Jacob Freedman Charitable Foundation 600.00
 Friends of Carleton 7,153.14
 L. Glatt Estate 500.00
 International Nickel Company of Canada Limited 8,900.00
 Francis C. C. Lynch Estate 14,099.92
 Parfield Oils Limited 1,522.00
 Royal Bank of Canada 532.50

GIFTS FOR STUDENT AID

Scholarships

The Aluminum Company of Canada Limited .. 800.00
 J. P. Bickell Foundation 4,500.00
 Clendinnen Scholarship in Biology 135.00
 Arthur A. Crawley and Company 500.00
 I.O.D.E., Lord Dundonald Chapter 100.00
 International Nickel Company of Canada Limited 4,800.00
 Harry Katznelson Memorial 220.00
 The Leonard Foundation 1,600.00
 Mclean-Hunter Publishing 1,000.00
 Dr. Frederick William Charles Mohr 12,028.87
 National Press Club of Canada Scholarship in
 Journalism 532.50
 The Ottawa Citizen 1,200.00
 Page and Steele Architects 300.00
 Professional Engineers Foundation for Education 750.00

The Association of Professional Engineers of Ontario	500.00
James Rattray Memorial	500.00
Regent Vending Machines Limited	200.00
Union Carbide Canada Limited	600.00
Hume Wrong Scholarship	250.00

Bursaries

Altrusa Club of Ottawa	100.00
A.T.A. Trucking Industry, Educational Foundation	1,100.00
J. P. Bickell Foundation	2,500.00
Birks Family Foundation	576.00
The Corporation House Limited	250.00
Engineers' Wives Association	400.00
The Gyro Club of Canada	1,500.00
I.O.D.E., Arnhem Chapter	200.00
I.O.D.E., Countess of Ashburnham Chapter	100.00
I.O.D.E., Falkland Chapter	100.00
I.O.D.E., Philemon Wright Chapter	54.00
International Business Machines	1,500.00
International Union of Office and Professional Employees	100.00
Hydro Electric Power Commission of Ontario	500.00
Knights of Pythias Aurora Lodge #53	100.00
Lions Club of Ottawa (South) Inc.	400.00
Litton Systems Bursary	300.00
National Printers Limited	250.00
Charles Ogilvy Limited	1,000.00
John T. O'Manique	450.00
Protestant Girls' Club of Canada	200.00
James H. Rattray Memorial	500.00
St. Patrick's Ladies Auxilliary	250.00
South Ottawa Kiwanis Club	500.00
South Ottawa Kiwanis Club Ladies Auxiliary	100.00
Steel Company of Canada Limited	3,000.00
Thorne, Gunn, Helliwell and Christenson Bursary	150.00
United Appeal, School of Social Work	2,500.00

Prizes

American Society for Metals—Engineering	25.00
---	-------

Canadian Public Relations Society—Journalism	200.00
Wilfrid Eggleston—Journalism	150.00
Engineering Institute of Canada	300.00
V. A. Ewing Memorial Prize	100.00
Lillian I. Found—Poetry	25.00
F. P. Galbraith	25.00
National Council of Jewish Women	200.00
Roodman Book Prize	50.00
W.C.T.U. Ottawa South Branch—Sociology	50.00
Elizabeth White Memorial—Zoological Collection	35.00

STUDENT AID FROM ENDOWED FUNDS

Scholarships

C. A. B. Betts Memorial	450.00
Donald William Buchanan Estate	200.00
D. Roy Campbell	500.00
Grace J. Dobbie Estate	3,200.00
Naomi Cook Scholarship	250.00
C. V. Hotson Memorial	100.00
I.O.D.E., Duchess of Connaught (Laurentian Chapter)	350.00
Gavin Scott Macfarlane Memorial	200.00
Ottawa Woman's Club	225.00
Ottawa Women's Canadian Club War Memorial	100.00
Mercy Neal Southam Entrance	2,000.00
Edith M. Stitt Estate	1,800.00
L. N. Wadlin—Mathematics	225.00
Hume Wrong Scholarship	225.00

Bursaries

R. A. Beamish	350.00
Nathan Braham Estate	300.00
Maurice Frederick Carty and Edward G. Carty	600.00
Ottawa Citizen's War Services Committee	130.00
Ottawa Superfluity Shop	325.00
The Phillips Bursary	200.00
Abraham Shaeffer	500.00
Edith May Stitt Estate	1,750.00
Honourable Cairine Wilson	200.00

Prizes

Dr. M. Ralph Berke, Prize in Chemistry	25.00
D. F. McKechnie, Prize in Accounting	Book Prize
Wilgar Memorial Prize in English	Book Prize
Kenneth R. Wilson Memorial Award in Journalism	300.00

F. J. TURNER,
Bursar

New Appointments

FACULTY OF ARTS

Academic Year 1968-69

Professors

- L. Fam, L. ès L., M. ès L. Cairo,
D. D'ÉTAT. Paris—French
J. Harp, B.A. Saskatchewan, M.SC.,
PH.D. Iowa State—Sociology
S. J. May, M. COM. McGill—
Economics
H. B. Mayo, B.A. Dalhousie, M.A.,
PH.D. Oxford—Political Science
The Right Honourable L. B. Pearson,
B.A. Toronto, M.A. Oxford, LL.D.,
D.C.L., F.R.A.I.C.—International
Affairs
M. J. Sydenham, B.A., PH.D. London—
History

Associate Professors

- C. Ake, B.SC. London, M.A., PH.D.
Columbia—Political Science
J. G. Bellamy, B.A. Oxford, M.A.
Oxford and Nottingham, PH.D.
Nottingham—History
R. K. N. Crook, B.A. Leeds, M.A.,
PH.D. Princeton—Sociology
J. M. Gripton, B.A., B.S.W., M.S.W.,
D.S.W. Toronto—Social Work
J. K. Johnson, B.A., M.A. Toronto—
History, St. Patrick's College
G. Marguerite Kay, DR. PHIL. Vienna
—Art
P. Krausser, B. OF MED. Koenigsberg,
PH.D. Goettingen—Psychology
P. C. Merkley, M.A., PH.D. Toronto
—History, St. Patrick's College
Gertrud Neuwirth, DR. RER. POL.
Graz, PH.D. Minnesota—Sociology
R. E. Osborne, B.A. Sir George
Williams, B.D., S.T.M. McGill,
PH.D. Edinburgh—Religion

- C. G. Williams, B.A., B.D., M.A. Wales
—Religion

Assistant Professors

- Marilyn J. Barber, B.A., M.A. Queen's
—History
L. R. Barnett, M.A., PH.D. Oregon—
Psychology, St. Patrick's College
G. R. Barratt, B.A. Cambridge—
Russian
M. C. Cabilio, L. PAED. Belgrade,
M.S.S. Montreal—Social Work
S. G. Clarke, B.A. Saskatchewan—
Philosophy
G. B. Doern, B. COM. Manitoba,
M.A. Carleton—Political Science
Diane E. Dubrulle, B.A. Cornell,
M.A. Toronto—Philosophy
R. C. Elwood, B.A. Dartmouth, M.A.
Columbia—History
H. Fers, L. ès L. Paris, D.E.S. Rennes
—French
P. A. Fried, B.SC. McGill, M.A., PH.D.
Waterloo—Psychology
Barbara C. Garner, B.A. New Bruns-
wick, M.A. Toronto, PH.D. London
—English
J. J. Healey, B.A., M.A. Leeds—
English
C. J. Jones, B.S. Missouri Valley
College, M.A. Washington Univer-
sity of St. Louis—Sociology
F. Kirk, Jr., B.A. Exeter—Political
Science, St. Patrick's College
K. J. Kjos, B.A. Wheaton, M.A.
Southern Illinois—Political Science
R. F. Larson, B.A., M.A. Toronto—
Spanish
N. Ledohowski, B.A., B. COM.
Saskatchewan—Accounting

C. R. Levenson, B.A. Cambridge—English
 A. Lopez-Ferandez, BACHILLERATO, Santiago de Compostela, LECENCIATURA, Madrid—Spanish
 R. H. MacDonald, B.A. New York—English
 R. D. M. Mathews, B.A. British Columbia, M.A. Ohio State—English
 H. McMillan, B.A., M.A. Yale—Economics
 J. R. Nellis, A.B., M.A. Syracuse—Political Science
 R. L. Nettler, B.A. Roosevelt, M.A. McGill—Religion
 J. G. Neuspiel, LL.B. London—Public Law
 Kathleen O'Donnell, B.A. McGill, M.A. Western Ontario, PH.D. Montreal—English, St. Patrick's College
 R. E. Reynolds, A.B. Harvard College, J.D. Chicago—History
 S. Richer, B.A., M.A. McGill—Sociology
 Soo-Bin Park, B.ECON., M.ECON. Seoul, M.A., PH.D. Indiana—Economics, St. Patrick's College
 I. G. Stevenson, B.A., M.A. McGill—Political Science
 E. L. Tepper, B.A. Michigan, M.A. American—Political Science
 Mary E. Valentich, B.A. McMaster, M.S.W. Ottawa—Social Work
 J. Weiner, B.SC. McGill—Journalism
 M. Welsh, B.A. Rhodes-Capetown, PH.D. London—Classics
 Caryll Wells, M.A. Maryland—Sociology, St. Patrick's College
 R. G. Wells, B.A. Reed College, M.A., PH.D. North Carolina—Psychology
 M. S. Whittington, B.A., M.A. Carleton—Political Science
 J. Wolfe, B.A. Carleton—Philosophy, St. Patrick's College
 E. N. Zimmerman, B.A. Bernard College, M.A., PH.D. Wisconsin—French

Lecturers

Margaret M. Campbell, M.B., C.H.B.
 St. Andrews, M.A. Carleton—
 Psychology, St. Patrick's College

B. I. Egyed, B.A. Sir George Williams, M.A., PH.D. McGill—Philosophy, St. Patrick's College
 R. L. Hogg, M.A. British Columbia—English
 Evelyn Voldeng, L. ès L., DIP. D'ETUDES SUP., C.A.P.E.S.—French, St. Patrick's College
 Claudia Persi, DOTT. IN L. e L., Boccini—Italian
 J. G. Ramisch, A.B. St. Mary's, M.A. Catholic University of America—Religion, St. Patrick's College
 P. J. Roster, B.A., M.A. Rutgers—Spanish, St. Patrick's College
 Inna Tolstoy, B.A. Carleton, M.A. Illinois—French, St. Patrick's College

Special Lecturers

Colette Fam, L. ès L. Aix—French
 Grace L. McNab, A.B. Chicago—Sociology

Visitors

The Honourable A. Buchan, M.A. Oxford, Visiting Professor of International Affairs
 General C. Foulkes, C.B., C.B.E., D.S.O., C.D., LL.D., D.SC., Visiting Professor of International Affairs
 A. W. Trueman, B.A. Mount Allison, M.A. Oxon., D. LITT., LL.D., Visiting Professor of English

FACULTY OF SCIENCE

Academic Year 1967-68

Assistant Professors

R. M. Morrison, B.ENG. McGill, PH.D. Paris—Physics

Academic Year 1968-69

Professors

R. G. Barradas, B.SC. Liverpool, PH.D. Ottawa—Chemistry
 R. L. Clarke, B.SC. Alberta, PH.D. McGill—Physics

Associate Professors

J. D. Dixon, B.A., M.A. Melbourne, PH.D. McGill—Mathematics
 J. A. Donaldson, B.SC. Queen's, PH.D. John Hopkins—Geology

- K. W. Joy, B.SC., PH.D. Bristol—
Biology
H. G. Merriam, B.SC. Guelph, PH.D.
Cornell—Biology
L. D. Nel, B.SC., M.SC. Stellenbosch,
PH.D. Cambridge—Mathematics
E. Saleh, B.SC., M.SC. Dacca, M.A.,
PH.D. Western—Mathematics

Assistant Professors

- J. M. Dunston, B.SC., M.A., PH.D.
Toronto—Chemistry
S. L. Jacobson, B.C.E. Cornell, M.SC.
Minnesota—Biology
M. J. Moore, B.SC., M.SC. Birmingham
—Mathematics
J. N. Pandey, B.SC., M.SC. Banaras
Hindu, PH.D. New York—
Mathematics

Visitor

- D. C. Rose, B.SC., M.SC. Queen's,
PH.D. Cantab—Visiting Professor
of Physics

FACULTY OF ENGINEERING

Academic Year 1968-69

Professor

- A. R. Boothroyd, B.SC.(ENG.), PH.D.
Imperial College, London

Associate Professors

- D. A. Kasianchuk, B.SC.(C.E.)
Manitoba, M.A.SC. Toronto
J. C. Vrana, B.A.SC. Toronto

Assistant Professors

- R. C. Biggs, B.SC. Queen's, M.S.
Stanford
R. F. Manuel, B.SC. Alberta, M.SC.
Queen's, PH.D. Alberta
S. T. Nichols, B.SC., M.SC. Alberta
J. S. Riordon, B.ENG., M.ENG. McGill,
PH.D. Imperial College, London
J.-Y. Wong, B.SC. Tsing Hua, PH.D.
Newcastle-Upon-Tyne

Research Engineer

- W. R. Davis, B.ENG., M.ENG.
Carleton

SCHOOL OF ARCHITECTURE

Academic Year 1968-69

Professor

- D. Shadbolt, B.ARCH. Oregon

Assistant Professors

- W. S. Cope, B.ARCH. Pennsylvania
G. D. Milne, B.ARCH. Toronto,
M.ARCH. Pennsylvania

LIBRARY

Academic Year 1967-68

- S. Kunstmann, B.A. Toledo—
Cataloguer
J. A. Gilliland, B.A. Saskatchewan,
B.L.S. Toronto—Junior Cataloguer
L. R. Prince, B.A. Acadia, B.L.S.
British Columbia—Junior Cata-
loguer

Academic Year 1968-69

- T. Kodar, B.A. Alberta, M.L.S.
Columbia—Book Selection
Librarian
N. Michel, B.S. Philadelphia College
of Bible, M.SC. Columbia—
Reference Librarian
J. N. Nalty, B.COM. Carleton, B.L.S.
Toronto—Reference Librarian

Changes in Status

- T. N. Brewis, Professor of Economics,
appointed Director of the School
of Commerce
H. E. English, Acting Dean of
Graduate Studies and Director of
the School of Commerce appointed
Director of the School of
International Affairs
V. F. Valentine, Associate Professor
of Sociology, appointed Dean of
Student Services

Promotions

Academic Year 1968-69

*From Associate Professor to
Professor*

- D. G. Bowen—History
B. A. McFarlane—Sociology
K. Z. Paltiel—Political Science

P. E. Uren—Geography
 D. W. Sida—Mathematics
 V. N. Iyer—Biology
 D. A. George—Engineering

From Assistant Professor to Associate Professor

P. Laurette—French
 W. Krynski—French
 Jutta Goheen—German
 C. A. Marsden—Spanish
 G. Melnikov—Russian
 K. Bicha—History
 D. M. Anderson—Geography
 Teresa J. Harmstone—Political Science
 K. A. J. Hay—Economics
 H. von Riekhoff—Political Science
 W. R. Scott—Accounting
 G. Y. Chao—Geology
 K. S. Williams—Mathematics
 J. E. Graham—Mathematics
 C. W. L. Garner—Mathematics
 Odette Condemine—French,
 St. Patrick's College

From Lecturer to Assistant Professor

D. G. Beer—Classics
 W. P. Dunn—English
 R. I. Stephens-Jones—English
 H. Schmidt—German
 Ann M. Rosenberg—German
 G. S. Adam—Journalism
 R. R. A. Marlin—Philosophy
 M. Glass—Philosophy
 Emilie Stichling—Russian
 J. M. Lopez-Saiz—Spanish
 Lillian Jackson—Spanish,
 St. Patrick's College
 Marianne Helfenstein—Mathematics

Leaves of Absence

Academic Year 1968-69

J. W. ApSimon, Associate Professor of Chemistry—for further studies in natural products chemistry at L'Institut de Chimie, Strabourg, France, and at The University of Liverpool, Liverpool, England
 E. Bergin, Dean of Women, St. Patrick's College—to pursue graduate studies at University of British Columbia

R. C. Blockley, Lecturer in Classics—to work on doctoral thesis on the Roman historian Ammianus Marcellinus at the University of Nottingham, England
 W. H. Bowes, Professor of Engineering—to conduct research into applications of numerical methods to engineering problems at the Nova Scotia Technical College, Halifax
 G. P. Browne, Associate Professor of History—to read law at the Inns of Court and to study at the Institute of Commonwealth Studies, London, England
 M. N. Donald, Associate Professor of Psychology—to conduct research into communication in the bargaining and negotiating process at Memorial University, University of Michigan and Victoria University, New Zealand
 C. Farmer, Assistant Professor of Sociology, St. Patrick's College—to pursue doctoral studies at University of Aberdeen, Scotland
 D. A. George, Professor of Engineering—to pursue studies and research in the field of communications at the Defence Research Telecommunications Establishment, Ottawa
 N. E. S. Griffiths, Assistant Professor of History—to collect data on political nationalism in France in the 17th and 18th centuries
 M. M. Hanna, Assistant Professor of English—(on half-time sabbatical) to pursue doctoral studies in Medieval Studies in Montreal
 A. Jeffrey, Assistant Professor of Philosophy—to study Greek philosophy at the University of St. Andrews, Scotland
 A. Lozano, Assistant Professor of Spanish, St. Patrick's College—to undertake doctoral studies at Laval University, Quebec City
 P. V. Lyon, Professor of Political Science—to carry out a comparative study of foreign policy of six to eight countries in Europe
 R. A. MacKay, Professor of Political Science—to spend four to six months in Europe and return to Ottawa to continue research

- and writing in field of Canadian foreign policy. Also to complete annotated collections of speeches and documents on post-war period
- W. Makios, Assistant Professor of Engineering—to fulfill military obligations in Greece
- J. M. Moore, Jr., Associate Professor of Geology—to accept Visiting Professorship at L'Institut de Minéralogie de l'Université, Geneva, Switzerland, and to study Alpine and Hercynian regional metamorphism

The Right Honourable L. B. Pearson, Professor of International Affairs—(partial leave of absence) to serve as Chairman of The World Bank Committee on International Development

T. R. Robinson, Assistant Professor of Classics—to complete doctoral thesis on geographical, historical and economic aspects of the later campaigns of Alexander the Great, at Queen's University, Belfast

D. C. Rowat, Professor of Political Science—to serve as Co-Commissioner for the Study of Relations between Universities and Governments

L. Sauvé, Assistant Professor of Mathematics, St. Patrick's College—to teach Mathematics at the School of Technology of Algonquin College, Ottawa

D. Schumph, Lecturer in Philosophy, St. Patrick's College—to pursue doctoral studies at Queen's University, Kingston

G. Setterfield, Professor of Biology—to carry out research on the structure and composition of cell nuclei in the Department of Biology, Laval University, Quebec City

J. Steele, Associate Professor of English—(on half-time sabbatical leave from January to April) to prepare a biography of Edmond Waller for publication in Ottawa

M. K. Sundaresan, Professor of Physics—to carry out research in high energy physics at Oxford University and at the Rutherford Laboratory

J. B. Waugh, Associate Professor of Accounting—to pursue doctoral studies in business administration at the University of Washington, Seattle

L. D. Young, Assistant Professor of English—to study the works of the Irish writer George Moore (1852-1933) in Ireland

Resignations

Effective Academic Year 1967-68

Administrative

A. M. Long, Reference Librarian, St. Patrick's College

J. Nicol, Registrar

I. Strauss, Staff Librarian

G. A. F. Townesend, Reference Librarian

Faculty

W. T. Bedwell, Assistant Professor of English

F. J. Blum, Assistant Professor of Psychology, St. Patrick's College

T. K. Cavanagh, Assistant Professor of History, St. Patrick's College

J. C. Cederstrom, Lecturer in English

R. W. Cockfield, Lecturer in Engineering

C. Couillard, Professor of Social Work

M. S. Cross, Assistant Professor of History

B. P. Dawkins, Assistant Professor of Mathematics

J. B. Forrest, Assistant Professor of Engineering

J. G. Fraser, Assistant Professor of Political Science

D. Goldstick, Assistant Professor of Philosophy

R. C. G. Haas, Assistant Professor of Engineering

R. J. Jackson, Assistant Professor of Political Science

W. A. Kearns, Assistant Professor of History, St. Patrick's College

W. D. K. Kernaghan, Assistant Professor of Political Science

S. Kumon, Visiting Assistant Professor of Economics
 J. E. R. Lloyd, Assistant Professor of Russian
 C. MacLachlan, Assistant Professor of Mathematics
 R. R. March, Assistant Professor of Political Science
 G. H. Martin, Visiting Professor of History
 D. McLeod, Lecturer in History, St. Patrick's College
 J. E. O'Connor, Assistant Professor of Philosophy, St. Patrick's College
 R. Peterson, Lecturer in Biology
 P. C. Pineo, Associate Professor of Sociology
 J. Porter, Professor of Sociology
 R. M. Punnett, Assistant Professor of Political Science
 G. W. Ramsey, Assistant Professor of Religion
 R. Ravano, Lecturer in Spanish
 B. Roy, Assistant Professor of French
 L. T. Russell, Assistant Professor of Engineering
 M. C. Smith, Assistant Professor of Psychology
 J. G. Stein, Assistant Professor of Political Science
 M. Stein, Assistant Professor of Political Science
 M. Tait, Assistant Professor of English

B. Webb, Special Lecturer in Sociology
 J. J. Wells, Lecturer in Religion, St. Patrick's College
 K. Yamada, Assistant Professor of Psychology, St. Patrick's College

Effective Academic Year 1968-69

Administrative

M. P. Brown, Junior Cataloguer
 M. Kvetan, Cataloguer
 C. Levac, Junior Reference Librarian
 E. Litman, Chief Acquisitions Librarian
 F. B. Wallis, Librarian, St. Patrick's College
 P. Yeung, Cataloguer

Retirement

Effective Academic Year 1967-68

R. B. Gamble, Assistant Professor of Mathematics

Deceased

A. C. Ghosh, Associate Professor of Physics
 N. A. Robertson, Paterson Professor of International Affairs
 A. M. Willms, Associate Professor of Political Science

Research

FACULTY OF ARTS

DIVISION I

Classics

D. G. BEER

Research

Continued research on doctoral thesis for University of Toronto,
"Dramatic Use of Cult and Ritual in Aeschylus"

A. T. HODGE

Research

The inter-relation of construction and decoration in Greek architecture of the classical period

The Campaign of the Battle of Marathon

The design of the steps of the Temple of Nemesis at Rhamnous (in collaboration)

Publications and Papers

Public lecture: "Treachery at Marathon", Carleton University, 16 December, 1967

Public lecture: "Unfinished Buildings", (Archaeological Institute of America), Royal Ontario Museum, Toronto, 23 April, 1968

Honours and Activities

National television lecture series, "Study of a Civilization: Minoan Crete", Canadian Television Network, "University of the Air", May-June 1968

English

A. M. BEATTIE

Publications and Papers

"The Many Marriages of Henry James", *Patterns of Commitment in American Literature*, University of Toronto Press, 1967, pp. 93-112

V. K. CHARI

Research

Further work on Whitman in progress

Publications and Papers

"Decorum as a Critical Concept in Indian and Western Poetics", *Journal of Aesthetics and Art Criticism*, Wayne State University, Fall, 1967, pp. 53-63

"Poe and Whitman's Short Poem Style", *Walt Whitman Review*, Wayne State University, Vol. 12, 3 September 1967, pp. 95-97

J. DOWNEY

Research

Further research on English pulpit oratory in the eighteenth century

Honours and Activities

Awarded a research grant by the Canada Council to visit England during summer, 1968, and prepare doctoral thesis for publication by the Clarendon Press

C. HAINES

Publication and Papers

Introduction to *The Farther Adventures of Robinson Crusoe*, Edizioni per Il Club del Libro, Novara,

Italy, 1967, pp. 1-11, (in Italian)
William Shakespeare and His Plays,
Franklin Watts, Inc., New York,
1968, pp. 181

M. M. HANNA

Research

A study of the Seven Deadly Sins in
the *Summa Predicantium* of John
Bromyard

Publications and Papers

Public lecture: "The *De Diligendo*
Deo of S. Bernard of Clairvaux",
Waterloo Lutheran University,
2 April, 1968

T. J. HENIGHAN

Research

The image of nature in modern fiction

Publications and Papers

"Nature and Convention in *A High*
Wind in Jamaica", *Critique: Studies*
in Modern Fiction, Vol. 9, No. 1,
pp. 5-18

"Beckford", *Wascana Review*, Vol. 3,
No. 1, 1968, pp. 40

M. LAFRANCE

Research

A critical study of Stephen Crane

Publications and Papers

Editor, *Patterns of Commitment in*
American Literature, Toronto,
University of Toronto Press, 1967,
pp. 210

"Stephen Crane's Private Fleming:
His Various Battles", *ibid.*,
Toronto, 1967, pp. 113-133

R. G. LAIRD

Research

"The New Spirit of the Age: Richard
Henry Horne" for doctorate at
Yale University

R. L. McDUGALL

Research

Lanark County Project (Institute of
Canadian Studies)

Honours and Activities

General Editor, *Carleton Library*
Member, Commission on Under-
graduate Teaching and Learning

A. D. McLAY

Research

Doctoral dissertation for the Univer-
sity of Wisconsin, "A comparative
study of the *Life of St. Thomas*
of Canterbury by John of Salisbury
and other twelfth-century Latin
Lives"

T. J. MIDDLEBRO'

Publications and Papers

"The Structure of Orwell's *1984*",
paper delivered to the Association
of Canadian University Teachers
of English, Annual Meeting,
University of Calgary, 12 June,
1968

I. PRINGLE

Research

Sources and relationships of the
immediate sources of the *Speculum*
Vitae

A study of late mediaeval allegorical
and theological poetry in English,
French and Latin, with a view to
elucidating the structure and
form of *Piers Plowman*

J. A. STEELE

Research

A biography of Edmund Waller

Publications and Papers

"Canada's Vietnam Policy: The
Diplomacy of Escalation", in
Stephen Clarkson (ed.) *An*
Independent Foreign Policy for
Canada?, Carleton Contemporary,
McClelland and Stewart, Toronto,
1968, pp. 69-81

A. T. TOLLEY

Publications and Papers

"The Printing of Auden's *Poems*
(1928) and Spender's *Nine*
Experiments", *The Library 5th*
Series, Vol. 22, No. 2, June 1967,

pp. 149-150

J. M. WILCOX

Research

Completion of doctoral dissertation for Wayne State University, "East End Novelists: The Working Class in English Fiction, 1880-1900"

D. J. WURTELE

Research

Completion of research for doctoral thesis for McGill University, "Chaucer's Man of Law and Clerk as Rhetoricians"

Honours and Activities

Canada Council pre-doctoral fellowship

L. D. YOUNG

Research

Anglo-Irish studies

Honours and Activities

Consultant for Lady Eaton College, Trent University, Peterborough

Modern Languages

A. ELBAZ (French)

Research

Completion of a doctoral dissertation for the University of Paris: "Le thème du mariage mixte chez les romanciers juifs américains et français, après la Deuxième Guerre Mondiale"

A study of the adaptation and involvement of Overseas Students on campus and in the community, based on a sample of Carleton University first-year overseas students

Publications and Papers

French VII Bibliography, No. 19, 1967 (in collaboration), French Institute, New York, pp. 351

"Le messianisme d'Israël et les intellectuels juifs en France", *Revue de l'Université d'Ottawa*, Vol. 37, No. 4, oct-déc. 1967, pp. 639-651

"A new immigration to Canada:

North African Jews in Montréal", *Journal of Canadian Studies*, Vol. 3, No. 1, February 1968, pp. 51-53

"Un nouvel essor", *Bulletin du Service Canadien pour les Etudiants et Stagiaires d'Outre-Mer*, (in collaboration), No. 15, February 1968, pp. 28

Honours and Activities

Bibliography correspondent, French VII (20th century) and French VI (19th century), French Institute, New York

Faculty Advisor to Overseas Students, Carleton University

International Student Information Service representative, Carleton University

Reelected on the National Board of Directors, Canadian Service for Overseas Students and Trainees

Chairman of the Program: "The role of Foreign Students' Advisor", for the 4th Annual Convention of the Canadian Service for Overseas Students and Trainees, Queen's University, 9-11 November, 1967

Member, CUSO Selection Committee, Carleton University

Member, Crossroads Africa Selection Committee, Ottawa

W. M. FRASER (French)

Honours and Activities

Senior resident, Russell House, Carleton University

M. GAULIN (French)

Research

Le concept de "l'homme de lettres" en France au XVIII^e siècle

Publications and Papers

"La Route d'Altamont" in Gabrielle Roy (ed.) ("Dossiers de documentation sur la littérature canadienne-française"), Fides, Montréal, 1967, pp. 71-77

"Saint-Denys-Garneau: *Lettres à ses amis*" in *Livres et auteurs canadiens* 1967, 1968, pp. 130-131

Honours and Activities

Participant, first Canadian Voltaire

Conference, Banff School of Fine Arts, 22-24 March, 1968

J. GOHEEN (German)

Research

Time and tense in Thomas Mann's novel *Dr. Faustus*

Publications and Papers

Der lange Satz als Kennzeichen der Erzählweise im "Michael Kohlhaas" *Wirkendes Wort*, 1967, pp. 239-246

Die Gestalt der deutschen Schriftsprache in Ontario (Kanada) als Ausdruck der Berührung zweier Sprachen und Kulturen, *Wirkendes Wort*, 1967, pp. 320-329

C. D. HÉRISSON (French)

Research

Research on Baudelaire's biography and poetry

Banville's biography and works

Publications and Papers

Kim, récits et Contes, a book of short stories and tales published by Regain, Monte-Carlo, 1968

Honours and Activities

Elected correspondent in Canada for the Centre Culturel Arthur Rimbaud, created in Charleville-Mézières in France, 1968

R. L. JACKSON (Spanish)

Research

The Negrista narrative in Spanish America

Negrista poetry in continental Spanish America

Early defenders of Negro liberty in Spanish America

The Negro contribution to Hispanic civilization

Publications and Papers

"La presencia negra en la obra de Rubén Darío", *Revista Ibero-americana* (julio-dic., 1967), pp. 395-418

"The Greguería of Ramón Gómez de la Serna: Antecedents and

Originality", *Symposium* (Winter, 1967), pp. 293-305

Honours and Activities

Awarded American Philosophical Society Research Grant, early summer, 1968

Awarded Canada Council Research Grant, late summer, 1968

E. F. KAYE (French)

Research

Editor, *Journal de Xavier Marmier* (1848-1890); Geneva, Droz, 2 volumes (in the press)

Essai sur Xavier Forneret, dit "l'Homme noir"

W. KRYSINSKY (French)

Research

Préparation de la communication *Structure de la narration dans Les Caves du Vatican* d'André Gide

Critique et discussion du livre de M. Carlo Pellegrini, *Letteratura e Storia nell'ottocento francese e altri saggi* (Roma, 1967, Edizioni di storia et letteratura)

Publications and Papers

"L'acte gratuit ou l'expérience de l'authenticité chez Gide et Dostoïevski", version abrégée de la communication faite pendant le congrès annuel de l'Association des Professeurs de Français des Universités Canadiennes, Juin 1967. (Actes abrégés du congrès annuel de l'APFUC, pp. 1-4)

"Pirandello et Gide. Essai de rapprochement. La mise en doute du réel. Deux esthétiques de l'autothématisation", *Rivista di letteratura moderna e comparée*, (Firenze, Printemps, 1968)

E. KUSHNER

Research

La poétique de René Char

L'univers religieux de François Mauriac

Pontus de Tyard: l'homme et l'oeuvre

Publications and Papers

"Jean-Amos Comenius et la France", Vth Congress of the International

Comparative Literature Association,
Belgrade, Yugoslavia, 30 August,
1967

"Maurice Blain: *Approximations*",
Livres et auteurs canadiens 1967,
April 1967, pp. 125-27

A radio presentation of *Le monde
est-il intérieur?* by Pierre
Emmanuel, April 1968

Honours and Activities

Member of the National Executive of
the Humanities Association of
Canada

Corresponding member for Carleton
University, Humanities Research
Council of Canada

Vice-president, Ottawa branch,
Société des Écrivains canadiens

Chairman, ad hoc Committee for
organizing the Canadian Com-
parative Literature Association

Member of selection Committee for
bursaries in creative writing
(French) Canada Council,
26 February, 1968

Canada Council research grant for
book on Mauriac

Editor for Canada, *Yearbook of
General and Comparative
Literature*

L. LORENZO-RIVERO (Spanish)

Research

*Larra y Sarmiento: Paralelismos
históricos y literarios*

*Afinidades literarias de Unamuno y
Larra: Estudio y Antología*

"Afinidades poéticas de Jorge Guillén
con Fray Luis de León"

Publications and Papers

"La sinfronía de Azorín y Larra" in
Hispanófila, num. 28, octubre
1966, pp. 27-38

"Paralelismos entre la crítica literaria
de Larra y Sarmiento", in *Cauder-
nos Hispanoamericanos*, num. 208,
abril 1967, pp. 59-74

"Sinfronismo de un místico y un
profana: San Juan y Guillén", in
Hispania, Vol. 50, No. 2, May
1967, pp. 266-270

Honours and Activities

Canada Council Grant for Research

on the literary relationships
between Larra and Unamuno

Participant in Guillén Conference —
University of Oklahoma,
9-11 February, 1968

G. MELNIKOV (Russian)

Research

Recent trends in Soviet literature
Soviet literary policies

Publications and Papers

"The Fourth Congress of Soviet
Writers", a paper read at the 21st
Modern Language Conference of
the University of Kentucky held
in Lexington, Kentucky,
26 April, 1968

Honours and Activities

Assistant Editor, Canadian Slavonic
Papers

Member of the Executive, Canadian
Association of Slavists

J. MIQUET (French)

Research

Critical edition of the XVth-Century
prose version of
FIERABRAS based on the two
remaining manuscripts now in
the Bibliothèque Nationale in
Paris

B. ROY (French)

Research

Doctoral dissertation for the
University of Montreal, "L'Art
d'amours (XIIIth century)",
critical edition and study

Honours and Activities

Attended Fourth International
Congress of Mediaeval Philosophy,
Montreal, 27 August—2 September,
1967

Gave a series of lectures at the
Institute of Mediaeval Studies,
University of Montreal: "Danté
et la pensée médiévale", January
to May, 1968

F. DE TORO-GARLAND (Spanish)

Research

Bibliographical study on *La Celestina*

and its author *Fernando de Rojas*
Lexicon of Spanish theatrical terms,
in progress

Las colecciones del Museo del
Prado y la *Sonata de Primavera*
de don Ramón del Valle-Inclán

Publications and Papers

"Los personajes de ficción, ¿son reales? (De Valera à Unamuno)", paper read at the Spring Meeting of the American Association of Teachers of Spanish and Portuguese, Ontario Chapter and the Ontario Modern Language Association, in Toronto, 21 March, 1968

"Population Explosion", a poem, in *BOREAL*, No. 5/6, Montreal, February 1968

"Revista de revistas", Section in *Revista de Estudios Hispánicos*, Vol. I, No. 2, November 1967, University of Alabama, pp. 255-264

Original poetry reading at the "Symposium of Spanish Poetry", Carleton University, 1 April, 1968

Honours and Activities

Canada Council Summer Research Grant, 1968, to work on the bibliography for *La Celestina*

Organizing the "Corral de don Fernando", the Spanish Theatre Group at Carleton University and directing the presentation of *El burlador de Sevilla* by Tirso de Molina in the Alumni Theatre

R. VIGNEAULT (French)

Research

Le développement de la pensée au Canada français d'après le témoignage des Essayistes

La poésie canadienne d'expression française

Publications and Papers

L'univers féminin dans l'oeuvre de Charles Péguy, Desclée de Brouwer, Bruges, 1967, p. 334

"Prix du Cercle du Livre de France", *Livres et Auteurs canadiens* 1967,

History

K. D. BICHA

Research

Immigration and settlement of Czechs in Wisconsin and in Chicago, 1850-1914

Publications and Papers

"Jerry Simpson: Populist without principle", *Journal of American History*, Vol. 54, No. 2, September 1967, pp. 291-306

The American Farmer and the Canadian West, 1896-1914, Coronado Press, Lawrence, Kansas, 1968, pp. 172

"Immigration, Reciprocity and Interest Groups", paper read at Northern Great Plains Historical Conference, Winnipeg, Manitoba, 10 November, 1967

D. G. BOWEN

Research

Continuing research on manuscript, "Souperism: Myth or Reality? A Study in Irish Social History"

Resident gentlemen: the clergy of Connaught during the period of the great Irish famine

The age of intelligent nepotism

Life of Lord John George Beresford, Archbishop of Armagh and Primate of all Ireland, 1822-1862

Publications and Papers

Monthly columnist, *The Canadian Churchman*, 1967-68

"Anglo-Catholicism in Victorian England", *Journal of Ecumenical Studies*, Abstract, Vol. 3, 1966, p. 582

"A Hard Look at the Anglican Church", *Anglican Dialogue*, Vol. 6, No. 1, 1968, pp. 4-5

The Idea of the Victorian Church, McGill University Press, 1968, pp. xiii and 421

Honours and Activities

Member, Long Range Planning Committee, Diocese of Ottawa, Anglican Church of Canada

Canada Council Short-Term Research

Grant, Summer, 1968

Series of ten public lectures, *Ottawa Lay School of Theology*, "The Changing Concept of God in History", 15 January—18 March, 1968

Adult Education Meeting, *Temple Israel*, Ottawa, 29 October, 1968, "Judaism in the Hellenic Period"

Reformed Jewish Congregation, *Temple Israel*, 3 November, 1968, "The Historic Tension between Judaism and Christianity"

Newman Club of Ottawa, "Anti-Semitism in the New Testament", 8 March, 1968

G. P. BROWNE

Research

On the historical setting of the British North America Act

Publications and Papers

Editor, *Documents on the Confederation of British North America*, The Carleton Library, No. 40, McClelland and Stewart, Toronto, 1968, pp. xxxi, 35

Honours and Activities

Canada Council Post-Doctoral Fellowship for 1968-69

R. T. CLIPPINGDALE

Research

"J. S. Willison, Political Journalist: From Liberalism to Independence, 1881-1905"

Doctoral dissertation for University of Toronto

G. S. COUSE

Publications and Papers

"Historical Relativism", address to graduate students in history, University of Windsor, 19 March, 1968

"The French Revolution and the Intensification of Historical Consciousness in the Early Nineteenth Century", address to undergraduate students in history, University of Windsor, 20 March, 1968

M. S. CROSS

Research

Biographies for *The Dictionary of Canadian Biography*

Completion of Doctoral dissertation, University of Toronto, "The Lumber Community and the Commercial Frontier in British North America, to 1854," May 1968

Publications and Papers

"Letters in Canada: Local and Regional", *University of Toronto Quarterly*, Vol. 36, No. 4, July 1967, pp. 485-491

"The Age of Gentility: The Formation of an Aristocracy in the Ottawa Valley", *Report of the Canadian Historical Association*, 1967, pp. 105-117

D. M. L. FARR

Publications and Papers

"Canadian Nationalism in Centennial Year," 22nd Annual Conference, Northern New England Historians, Dartmouth College, Hanover, New Hampshire, 21 October, 1967

Honours and Activities

Chairman, Council of Deans of Arts and Science of the Ontario Universities

Member, Advisory Council on Public Records, Public Archives of Canada

Member, Historical Advisory Committee, National Capital Commission

Representative of the Canadian Historical Association, Social Science Research Council of Canada

Commencement address delivered at the graduation exercises of Hull Protestant High School, 9 November, 1967

M. G. FRY

Research

Preparation of a manuscript "Lloyd George and the Conduct and Criticism of British Foreign Policy, 1895-1945"

Publications and Papers

"Great Britain, the Allies and the Problem of Russia, 1918-1919", *Canadian Journal of History*, Vol. 3 September 1967, pp. 62-84

Honours and Activities

Represented Carleton University at the Anglo-American Conference of Historians, London, England, 3-7 July, 1967

R. G. GLOVER

Research

Work on Andrew Graham's *Observations on Hudson's Bay*; a study of what a fur trader, who lived from 1750-1775 on the coast of today's province of Manitoba, wrote about the Northland; to be published in the Hudson's Bay Record Society Series

Publications and Papers

"The French Fleet, 1807-1814; Britain's Problem; and Madison's Opportunity", *The Journal of Modern History*, Vol. 39, No. 3, September 1967, pp. 233-252

"Early Northern Explorations", a paper read to the Fourth National Northern Development Conference, Edmonton, 1 November, 1967, and published in *The Proceedings of the Fourth National Northern Development Conference*, Edmonton, 1968, pp. 25-28

R. B. GOHEEN

Research

Completion of doctoral dissertation for Yale University, "The Function of the Peers in Early Tudor Governance"

Continuing research into the nature of Tudor English governance

T. M. HUNTER

Research

Problems in 19th Century diplomacy

P. J. KING

Research

Work on a book: *Utilitarian Juris-*

prudence in America: The Influence of Bentham and Austin on American Legal Thought in the Nineteenth Century

The Political Thought of Daniel De Leon and the American Socialist Labor Party, 1890-1914

G. H. MARTIN

Research

The medieval English borough
A critical bibliography of British municipal history

Publications and Papers

Colchester: the official guide, 3rd edition, Colchester, 1967

F. OUELLET

Publications and Papers

"Les insurrections de 1837-38: un phénomène social", paper delivered at the Royal Society of Canada, 4 June, 1968

"La noblesse canadienne en 1767: un inventaire", *Social History*, 1 April, 1968, pp. 129-137

Review of R. C. Harris, *The Seigneurial System in Early Canada, a Geographical Study*, *Social History*, 1 April, 1968, pp. 152-59

Canada: Unity in Diversity, Toronto, 1967, pp. xiii, 529 (in collaboration with M. Trudel, J. Hamelin and P. G. Cornell)

Honours and Activities

Elected Fellow of the Royal Society of Canada

Prix littéraire de la ville de Montréal, Les concours littéraires de la Province de Québec, le Prix David for *Histoire économique et sociale du Québec, 1760-1850*. (Montreal, Fides, 1966)

J. W. STRONG

Publications and Papers

"A Discussion of Professor Buyniak's Paper", *Canadian Slavonic Papers*, Vol. 9, No. 1, Spring, 1967, pp. 30-34

"Ideology and Policy Decisions —

Two Soviet Cases", paper given at the Professional Development Day, Renfrew and District Collegiate Institute, Renfrew, Ontario, 3 November, 1967

"Thoughts on the Russian Revolution", radio program on the CBC Network, 29 November, 1967

"Marxism-Leninism in Soviet Foreign Policy", paper given at history meeting, Richmond Hill, Ontario, 26 February, 1968

"The Role of non-Western Historical Studies in the Secondary Schools", paper given at meeting of History Teachers, Langstaff, Ontario, 26 February, 1968

"Why the Bolsheviks Won in 1917", paper given at History meetings. Thornhill and Bayview, Ontario, 27 February, 1968

Journalism

G. S. ADAM

Honours and Activities

A study of the operation of the *St. John's Daily News*, Newfoundland (with T. Joseph Scanlon)

W. H. KESTERTON

Research

Continuing research into law and the press in Canada

Publications and Papers

Co-editor with Lucien Brault, Jean-Louis Gagnon, D. C. McArthur, Frank Underhill and Christopher Young, *A Century of Reporting; Un siècle de Reportage*, Toronto, Clarke, Irwin and Co. Ltd., 1967, p. 301

"Mass Media" *Canadian Annual Review for 1966*, Toronto, University of Toronto Press, 1967, pp. 418-437

Honours and Activities

Member, Canada Foundation assessment committee, Canada Council journalist-broadcaster-filmmaker scholarships

Guest lecturer, Department of Journalism, University of Western Ontario, 18-22 February, 1968

T. J. SCANLON

Research

Preparation of a book of case studies for use in the study of Journalism

The effects of color with particular attention to television

Continuing work for a book on the use of propaganda by the federal government in Canada

Publications and Papers

"Color TV: New Language", *Journalism Quarterly*, Summer, 1967, pp. 225-230

"Canadian Experiment Indicates Change of Knowledge Result of Broadcasts" *Radio-Television News Directors Association Bulletin*, Vol. 21, No. 6-7, 1967, pp. 15-16, 19 (with Roman March)

"The Sources of Foreign News in Canadian Daily Newspapers", Press and Liaison Division, Department of External Affairs, 20 December, 1967, revised 16 April, 1968

Honours and Activities

Member, Canadian Committee, International Press Institute

A study of the operation of the *St. John's Daily News*, Newfoundland (with Stuart Adam)

"The Role of the Press and Television in Formulating Public Opinion", National Defence College, Kingston, 20 September, 1967

"Practical Implications of Using Color in Communications", Eastern Canada Farm Writers' Association, Lake Couchiching, 22 September, 1967

Three lectures on the reporter, his problems and ethics for Memorial University, St. John's, Newfoundland. (two by videotape and radio) 9, 19 February and 11 March, 1968

Philosophy

M. GLASS

Research

Doctoral thesis for Queen's University "Supererogation"

D. GOLDSTICK

Research

A practical refutation of empiricism

J. W. LEYDEN

Research

The introduction of theoretical expressions in a developing scientific theory

The analysis of "change", "event", "alteration" and "order" in Kant's *Critique of Pure Reason*

R. A. MARLIN

Research

Continuing doctoral thesis for University of Toronto, "Criminal Responsibility and Retributive Justice"

R. S. TALMAGE

Research

A study of thought, cause and desire

A re-interpretation of the identity thesis about body and mind

Publications and Papers

"Pretending to be Awake: A Reply", *Noûs*, Vol. 2, No. 1, February, 1968, pp. 91-94

J. M. THOMPSON

Research

Some specific senses of "symbol"

B. WAND

Research

Religious concepts and moral theory

Publications and Papers

"Hume's Account of Obligation", in *Hume*, V. C. Chappell, (ed.) Anchor Books, Doubleday & Co., New York, 1966, pp. 308-335

J. C. S. WERNHAM

Research

Historical studies in the philosophy of religion

Publications and Papers

Two Russian Thinkers: an Essay in Berdyaev and Shestov, Toronto, University of Toronto Press, 1968, pp. xiii, 118

Review of Lev Shestov's *Athens and Jerusalem*, translated by B. Martin, *Dialogue*, Vol. 6, No. 2, 1967, pp. 263-265

Honours and Activities

Awarded grant from the Humanities Research Council of Canada in aid of publication of *Two Russian Thinkers: an Essay in Berdyaev and Shestov*

Religion

A. R. GUALTIERI

Research

Theological evaluations by Christians of the religious faith of non-Christians

Publications and Papers

"God's Answer to the Anxieties of Life", *Pulpit Digest*, Vol. 48, No. 348, November 1967, pp. 47-54

"Descriptive and Evaluative Formulae for Comparative Religion", *Theological Studies*, Vol. 29, No. 1, March 1968, pp. 52-71

"The Resurrection: An Existential Verification". *The Christian Century*, Vol. 85, No. 15, 10 April, 1968, pp. 451-453

"Myth and Justice: A Critique of the Religious Justification of Zionism", paper presented to The Arab Federation of Canada, Ottawa, 9 April, 1968

Honours and Activities

Editorial Consultant for Fall, 1967 issue (Vol. 6, No. 2) of *Journal for the Scientific Study of Religion*

Four worship addresses delivered to the Anglican and United Church Special Commission on the Church in the World, Aurora Conference Centre, 10-12 June, 1968

Panelist commenting on paper by Dr. Raymond Panikkar, "L'église, lieu de rencontre entre l'est et l'ouest?", Centre Monchanin, Montreal, 26 May, 1968

G. W. RAMSEY

Research

Completion of doctoral dissertation for Princeton University Graduate School. "The Predictive Element in Hebrew Prophecy"

Publications and Papers

"The relation between the Old and New Testaments", Address for the Evening Pulpit Series, "On the Boundaries of Concern", Dominion-Chalmers United Church, Ottawa, 11 February, 1968

Honours and Activities

United Church of Canada Lay School of Theology (Ottawa area), ten lectures on "Introduction to the Old Testament", October-December, 1967

FACULTY OF ARTS

DIVISION II

Commerce

H. E. ENGLISH

Research

A summary study in the Atlantic Economic Studies Program of the Private Planning Association of Canada dealing with the impact on the Canadian economy of closer integration in the Atlantic community (with B. W. Wilkinson and D. W. Slater)

A study for the Economic Council of Canada on the implications of industrial structure in the nature and effectiveness of research and development activities in Canada (with Ehsan Choudhri)

Publications and Papers

"Transatlantic Economic Community: Canadian Perspectives", in *Canada in the Atlantic Economy* series, No. 2, University of Toronto Press, 1968, pp. 70

"Industrial Organization and Technical Progress", in *Growth and the Canadian Economy*, by T. N. Brewis, The Carleton

Library, No. 39, 1968, pp. 112-37

"Manufacturing", in *Canada One Hundred, 1867-1967*, Dominion Bureau of Statistics, 1967, pp. 175-188

"The Canadian Industrial Structure: An Essay on its Nature and Efficiency", in *Contemporary Canada*, Duke University Press, Durham, N. C., 1967, pp. 81-103

"Canada and Europe: The Economic Issues", in *Canada and Europe — A New Look*, The Fifth Annual Banff Conference on World Affairs 1967, pp. 86-107

"Japan's Developing Trade Strategy", in *The Round Table*, No. 230, April 1968 pp. 137-42

Honours and Activities

Attended Conference on "Paths to an Atlantic Community", The Ditchley Foundation, Ditchley Park, England, 2-5 June, 1967

Attended the Fifth Annual Banff Conference on World Affairs, 21-26 August, 1967

Attended the Fiftieth Jubilee Conference of the Indian Economic Association, Madras, India, 27-31 December, and acted as discussant of paper by V. K. R. V. Rao on "Exports and Development"

Attended conference on Pacific Trade and Development in Tokyo, Japan, 9-13 January 1968, and delivered paper on "Canada and Pacific Trade Policy"

Secretary, Private Planning Association of Canada

Director of Research for the Atlantic Economic Studies Program

Executive Vice-President, Consumers' Association of Canada

Economics

T. N. BREWIS

Research

An examination of regional economic policies in Canada and Europe

Completion of manuscript to be published by Macmillan, *Policies for Canada: Lagging Regions*

Publications and Papers

Editor of "Growth and the Canadian Economy", The Carleton Library No. 39, Toronto, McClelland and Stewart, 1968

Regional Development and Planning in Canada (with Gilles Paguet), Canadian Public Administration, June 1968

Honours and Activities

Enquiry into Carleton University courses offered under the Commonwealth Caribbean Assistance Program

E. U. CHOUDHRI

Research

Analysis of Industrial Research and Development Activity in Canada (sponsored by Economic Council of Canada)

S. K. GHOSH

Research

Evaluation of the Effects of Canadian Devaluation on Her Balance of Payments Via Changes in the Terms of Trade, Income Distribution, Relative Profits and Cash Balances

Commercial Policy

K. A. J. HAY

Research

Money and the Canadian economy
Canadian-Japanese trade relationships

Publications and Papers

"Prospect and Retrospect", *Canada-Japan 1967*, July 1967, pp. 28-30

"Determinants of the Canadian Money Supply, 1875-1958", a paper read at the annual meetings of the Canadian Economics Association, Calgary, 5 June, 1968

"Canadian-Japanese Trade, Growth and Investment", papers read to the Canadian Trade Committee, Montreal, 13-14 June, 1968

"Canada and the Japanese Economy", *Canada-Japan 1968*, July 1968, pp. 46-48

"Education and Capital Misallocation

in a Growing Economy", *Canadian Journal of Economics*, Vol. 1, August 1968

Honours and Activities

Consultant to Canadian Trade Committee and Canada-Japan Trade Council. Conferred on their behalf with government, industry, banking and trade officials, and academics in Tokyo, Osaka, and Kyoto, Japan, and Hong Kong, Summer 1967

Convenor of the Fourth Annual Conference on Quantitative Research in Canadian Economic History, held at Carleton University, 29 February—1 March, 1968

S. F. KALISKI

Publications and Papers

"Structural Unemployment — A New Stage in the Debate", *Canadian Banker*, Vol. 74, No. 3, Autumn, 1967, pp. 72-77.

"The R & D Factor in United States Trade — A Comment", *Journal of Political Economy*, Vol. 75, 5 October, 1967, pp. 761-762

"Tax Treatment of Foreign Source Income", Panel of the 20th Tax Conference, Canadian Tax Foundation, Montreal, 27-29 November, 1967 (*Report of Proceedings*, pp. 304-8)

"Some Quantitative Aspects of Structural Unemployment in Canada", read to the second annual meeting of the Canadian Economics Association, Calgary, 5-7 June, 1968

"Structural Unemployment in Canada: Towards a Definition of the Geographic Dimension", *Canadian Journal of Economics*, August, 1968

N. H. LITHWICK

Research

Urban Economics (with G. Paquet)

Science Policy

Economic Development

Preparation of an Introductory textbook on Economics

Publications and Papers

- "Prices, Productivity and Canada's Competitive Position", Canadian Trade Committee, September 1967
- "Economic Growth in Canada: A Quantitative Analysis", University of Toronto Press, 1968
- "The Sources of Economic Growth", study No. 24, Royal Commission on Taxation, Queen's Printer, 1968
- "Urbanization and Poverty — Some Policy Questions", paper presented to the Annual Meeting, Liberal Party in Ontario, and published in the Canadian Forum, April 1968
- "Science Policy in Canada", *Journal of Canadian Studies*, August 1968
- "Urban Studies: A Canadian Perspective", Methuen, Fall 1968, (with G. Paquet)

Honours and Activities

Consultant, Science Council of Canada

Member, Agricultural Advisory Committee, National Capital Commission

G. PAQUET

Research

- Urban Economics (with N. H. Lithwick)
- Comparative Economic Systems (with R. L. Carson)
- Social security
- Medical Economics
- Canadian Economic Development
- Economics of Uncertainty
- Economic aspects of science policy

Publications and Papers

- "The Impact of Social Security Programmes on Our Economy", paper read at the Conference on Social Security Today and Tomorrow, Queen's University, Kingston, 18 July, 1967
- "La démographie historique au Canada" *Recherches Sociographiques*, Vol. 8, No. 2, 1967, pp. 214-17 (en collaboration)
- "Syndicalisme et classes moyennes", Communication présentée à la rencontre de Montréal de l'Institut

International d'Etudes des Classes Moyennes, Montréal, le 30 septembre 1967

Les chapitres 2, 3, 5, et 11 in Thomas J. Boudreau (Editeur) *L'Economique de la Santé*, Université de Sherbrooke 1967, pp. 40-51, 52-63, 83-98, 161-175

"Les politiques parallèles dans l'assurance-maladie", *Le Médecin du Québec*, Vol. II, 8, Octobre, 1967, pp. 609-12

"A Systemic View of Regional Development and Planning", *Urban Studies*, Vol. 4, No. 2, November 1967, pp. 286-292, (with T. N. Brewis)

"Canada's Relations with the United States", *The Financial Times*, London, 9 November, 1967

"Industrialisation et développement régional" Communication présentée au symposium sur les Dimensions du Développement Régional par la Société Canadienne de Science Economique, Sherbrooke, 4 novembre 1967

"Aperçu sur le commerce international et les prix domestiques dans le Bas-Canada, 1793-1812", *Revue d'Histoire de l'Amérique Française*, Vol. 21, 3 Décembre 1967, pp. 447-473 (avec Jean-Pierre Wallot)

"The French-Canadian Immigration into the United States in the 19th Century: An Exploratory Essay", paper read at the meetings of the American Catholic Historical Association, Toronto, 30 December, 1967

"Anatomy of Recent Economic Developments in the Communist World", *Culture*, Vol. 29, No. 1, March 1968, pp. 18-34

"Le marxisme et la crise du capitalisme" Communication présentée à la V^e Semaine de Philosophie Université Laval, Québec, le 5 avril 1968

"Réflexions sur certains aspects économiques du droit" Communication présentée à la Société des Etudes Juridiques de Québec, Québec, le 22 avril 1968

"Regional Development and Planning in Canada", *Canadian Public*

Administration, Vol. 11, No. 2,
June 1968, (with T. N. Brewis)

Honours and Activities

- Grant from Central Mortgage and Housing Corporation for research in urban economics
- Elected secretary-treasurer of the Canadian Economics Association
- Elu directeur de la Société canadienne de Science économique
- Director of Research (Human Science) of the Special Senate Committee on Science Policy
- Grant from the Museum of Human History for research in economic history

G. RICH

Research

- U.S. international capital movements

T. K. RYMES

Publications and Papers

- "Postwar production relationships in Canada" (ed.) M. Brown, *The Theory and Empirical Analysis of Production*, New York Columbia University Press, for the National Bureau of Economic Research, Inc., 1967, pp. 139-273 (with N. H. Lithwick and G. Post)
- "Theories of economic growth: an introduction", (ed.) T. N. Brewis, *Growth and the Canadian Economy* Toronto, McClelland and Stewart Ltd. *The Carleton Library*, 1968, pp. 19-33
- "Professor Read and the measurement of total factor productivity", *Canadian Journal of Economics*, Vol. 1, No. 2, May 1968, pp. 359-367

Geography

D. M. ANDERSON

Research

- Farm Machinery Densities, 1951-1966, a series of maps for the Royal Commission on Agricultural Machinery (with D. R. F. Taylor)
- "Summer Cottages and Cottagers on

the Rideau Waterway", completion of study initiated in 1967 for Ontario Department of Economics and Development (with D. R. F. Taylor)

- "Recreational Development Plan, Renfrew County", presentation of the master plan for tourism development in the County of Renfrew

Publications and Papers

- "Coordination in Outdoor Recreational Research and Development — The Need and a Possible Solution", *The Bulletin of the Conservation Council of Ontario*, Vol. 14, No. 4, October 1967, pp. 2-5, 8
- "Development of the Recreational Resource Potential of the Rideau Waterway System", a brief to the Joint Canada-Ontario Rideau Study Committee, 30 September, 1967
- An Initial Bibliography of Canadian Outdoor Recreational Development*, Ottawa, Department of Forestry & Rural Development, November 1967, pp. 121 (with N. Munro)
- "Agricultural Organization in Denmark", public lecture, Carleton University, November 1968

Honours and Activities

- Member, Forestry and Land Use Advisory Board, Rideau Valley Conservation Authority, 1967-68
- Chairman, Recreational Geography Session, Canadian Association of Geographers, Ontario meeting, York University, February 1967
- Conducted seminar for Community Development Officer's Training Course, Department of Indian Affairs and Northern Development, February 1968

D. P. F. FITZGERALD

Research

- Pioneer settlement in Canada
- A human geography of the northlands with reference to northern Scandinavia and the Soviet Arctic and Subarctic

Honours and Activities

Under the auspices of the Social Science Research Council, delivered a series of public lectures on the Canadian North at universities and institutions in Eastern Europe and the U.S.S.R., Summer 1967

Lecture tour sponsored by Social Science Research Council, Summer 1968, through Japan, Indonesia, Thailand, Hong Kong, India, Malaysia

Represented Carleton University at the installation of the New Vice-Chancellor of the University of Tübingen, December 1967

Conducted a seminar for Community Development Worker's Training Course sponsored by Department of Indian Affairs & Northern Development, February 1968

Public Lecture entitled "Pioneer Settlement in Canada", Carleton University, November 1967

J. P. JOHNSON, JR.

Research

Glacial geomorphology of parts of the Labrador coast

Rock glaciers in the Icefield Ranges, Yukon Territories

Nearshore Lacustrine processes, Kluane Lake, Yukon Territories

Publications and Papers

Contributor to *Naval Arctic Manual ATP - 17 (A)*, Arctic Institute of North America, Montreal, 1968

Honours and Activities

Arctic Institute Grant-in-aid as a Principal Investigator in the Icefield Ranges Research Project

G. C. MERRILL

Publications and Papers

"Regionalism and Nationalism", in *Canada, A Geographical Interpretation*, (ed.) John Warkentin, Chapter 17, Toronto, Methuen Press, for the Canadian Association of Geographers, 1967, pp. 556-568

Honours and Activities

Vice-Chairman, Editorial Committee, Canadian Geographical Journal

Member, Sub-Committee on Research Grants, National Advisory Committee for Geographical Research

Invited participant in Middle North tour of Arctic Canada, conducted by the Arctic Institute of North America, 17-30 July, 1967

Appointed member of the Canadian delegation to attend the International Geographical Congress to be held in New Delhi, India, 1-8 December, 1968

S. MITSUHASHI

Research

Analysis of commodity flows by railways, highways and coastwise shipping in Japan in 1960

Publications and Papers

"Commodity Flow Study Applied to Japan: Methods and Results", an invited public lecture at the University of Michigan, Ann Arbor, Michigan, April 1967

"Commodity Flows in the U.S.", *Transport Survey*, Ministry of Transportation, Tokyo, Japan, Vol. 9, No. 4, September, 1967, pp. 1-11

Honours and Activities

Canada Council grant to analyze economic geography of transportation in Japan in 1965

D. R. F. TAYLOR

Research

Problems of development in Africa with particular reference to land settlement and agricultural development in East Africa

Pre-history of the Kikuyu Highlands with special reference to pre-Bantu people of the Kikuyu Plateau

The application of computer mapping techniques

A pilot study of the hidden map resources of Eastern Ontario

Publications and Papers

- "The Internal Trade of Fort Hall District, Kenya", *Canadian Journal of African Studies* Vol. 1, No. 2, November, 1967, pp. 111-122
- "Land Settlement in Kikuyuland, Kenya", public lecture, Carleton University, October, 1967
- "Pre-Bantu people of the Kikuyu Plateau, Kenya, A Link between History and Pre-History?" paper read to the African Studies Association, 10th Annual meeting, New York, November 1967
- "The Swynnerton Plan; a re-appraisal", paper read to the Canadian African Studies Association, Ottawa, November, 1967
- "The Changing Human Geography of Kikuyuland", paper read to the Second International Congress of Africanists, Dakar, Senegal, December, 1967
- "New Central places in East Africa", paper read to the Canadian Association of Geographers, C.A.G. Annual Meeting, Calgary, May 1968

Honours and Activities

- Chairman, Carleton Committee of CUSO
- Member of executive committee of the Canadian Association of Map Libraries, June 1967
- Elected Chairman, of a Committee to examine Canada's map resources, June 1967
- Awarded Canada Council grant to visit Africa, December 1967
- Appointed member of official Canadian Delegation to Second International Congress of Africanists, December 1967
- Elected vice-chairman of the Ottawa Center of the Canadian Meteorological Society, March 1968
- Awarded scholarship by Harvard University to study the dimensional computer graphics with particular reference to OTOTROL, May 1968
- Elected secretary, Ottawa Geographical Society, May 1968
- Awarded research grant to study map resources in Eastern Ontario,

May 1968

P. E. UREN

Research

The geography of rural Hungary

Publications and Papers

- "Les refirms agraires en Europe orientale, et particulièrement en Hongrie", Programme des exises de recherches, Institut de geographie, Universite Laval, invited lecture, March 1968

Honours and Activities

- Canada Council grant to attend Hungarian Academy of Sciences, International Conference on the Impact of Industrialisation on the Rural Population of Eastern Europe, Budapest, October 1967
- Vice-President, Ottawa Geographical Society
- Managing Editor, *Canadian Slavonic Papers*, Canadian Association of Slavists

T. P. WILKINSON

Research

- Doctoral dissertation for the University of Newcastle upon Tyne, "Transport of rock debris in low-order upland streams"
- Studies in post-glacial palaeo-hydrology of the Ottawa Valley

Publications and Papers

- "Geography in secondary and post-secondary education — the need for co-ordination and co-operation", Eastern Ontario Geography Teachers Association, Ottawa, April 27, 1968

School of International Affairs

N. A. ROBERTSON

Honours and Activities

- Named Companion of the Order of Canada, July, 1968

Political Science, Public Administration and Public Law

R. D. ABBOTT (Public Law)

Research

Decision procedures of federal administrative tribunals
The law of water pollution in Ontario

J. ALEXANDER (Political Science)

Research

Introduction to Political Science
(with Charles Dalfen)
Government and politics in a technological society

Publications and Papers

"The Self-Fulfilling Prophecy Road to War", *Change*, Vol. 2, No. 5, unpaginated, 1966
"The Administration of the Amenities", *Public Administration Review*, Vol 28, No. 1, January/February 1968, pp. 55-57
"Lyndon the Electronic Manipulator", *Saturday Night*, March 1968, pp. 18-20
"Why Lyndon Lies", paper to be presented at the annual meeting of the American Political Science Association, September 1968
"Technological Politics, or Political Science in the Hands of an Angry God", paper presented at the annual meeting of the Canadian Political Science Association, June 1968

Honours and Activities

Trustee, American Institute for Political Communication, Washington, D.C., 1968

C. M. DALFEN (Political Science)

Publications and Papers

"The World Court in Idle Splendour: The Basis of States' Attitudes", *International Journal*, Winter 1967-68

D. FRASER (Public Law)

Research

Industrial Relations in the Public Service

T. R. HARMSTONE

Research

Research in progress: "Province

Party Secretary as the Focal Point in the Soviet Political System"

Publications and Papers

"The Dilemma of Nationalism in the USSR", lecture in *The Soviet Union Since Khrushchev* Public Lecture Series, Carleton University, 2 February, 1968

Honours and Activities

Coordinator, Seminar Program of the Soviet and East European Committee, 1967-68

R. J. JACKSON (Political Science)

Research

Writing book on *Democratic Stability in France*

Publications and Papers

"Consensus and Dissensus in French Political Behaviour", *International Journal*, Spring 1968
"Some Aspects of Canadian Political Science", *Mid-West Journal of Political Science*, November 1967
"Parties in Canada and Britain", a paper delivered to a staff-student seminar at the University of Western Ontario, January 1968

P. V. LYON (Political Science)

Research

A comparative study of the foreign policies of European countries

Publications and Papers

Canada in World Affairs, Vol. 12, 1961-63, Toronto, Oxford University Press, 1968, pp. 555
"Quiet Diplomacy Revisited", in *An Independent Foreign Policy for Canada?*, (ed.) Stephen Clarkson, McClelland and Stewart, Toronto, 1968, pp. 29-41
"Canada-United States Relations during the Final Months of the Diefenbaker Regime", paper delivered to the Ninth Annual Seminar on the Canadian-American Relations, Windsor, 1 November, 1967
"Canada and the United Nations: Choices Real and Imaginary",

paper delivered in a series sponsored by the United Nations Association and Trent University, Peterborough, 21 February, 1968
"In Defence of Canadian Foreign Policy", *The Commentator*, Vol. 11, No. 11, November 1967, pp. 20-22

Honours and Activities

Awarded Canada Council Leave Fellowship for 1968-69

R. O. MACFARLANE
(Public Administration)

Research

Training of Public Servants in Administration

Honours and Activities

Member, Editorial Committee, Canadian Geographical Journal

Co-Director, Senior Officers' Conference, Ontario Civil Service Commission, 13-31 May, 1968

Member, Steering Committee on Schools of Public Administration for International Institute of Administrative Sciences

Member, Board of Governors, Algonquin College of Applied Arts and Technology

Participated in training program for administrative officers of the federal and provincial levels

K. D. MCRAE (Political Science)

Research

Plurilingual societies

Honours and Activities

Chairman, Publications Committee, Social Science Research Council of Canada

W. A. MULLINS (Political Science)

Research

Doctoral dissertation for the University of Washington, "Ideology and Practical Politics"

K. Z. PALTIEL (Political Science)

Research

Public subsidization of election

expenses

Comparative political party finance

Controls on political broadcasting in modern democracies

Party politics in Israel

Interest groups in Canadian politics

Publications and Papers

"The Proposed Reform of Canadian Election Finance: A Study and Critique", *Jahrbuch des Öffentlichen Rechts der Gegenwart*, Neu Folge/Band 16, 1967, Tübingen, pp. 379-409
pp. 379-409

"Les Commissions Royales d'Enquête in Les institutions politiques Canadiennes", (ed.) Louis Sabourin, Presses Universitaires d'Ottawa, 1967, Chapter 25, pp. 379-391

"The Public Subvention of Election Expenses in Canada", paper presented to the Specialist Panel on Political Finance at the VIIth World Congress of the International Political Science Association, Brussels, Belgium, 18-23 September, 1967

"La déclaration Balfour", on *Le Monde en Marche* series, CBC French Network, 4 novembre, 1967

"La situation au Moyen-Orient", on *Le Monde en Marche* series, CBC French Network, février, 1968

"Le bilan de vingt ans de l'Etat d'Israel", on *Le Monde en Marche* series, CBC French Network, 11 mai, 1968

Honours and Activities

Chairman, Programme Committee for the 1968 Annual Meeting, Canadian Political Science Association

Ex Officio Member of the Executive Council of the C.P.S.A.

Elected Secretary, International Study Group on Political Finance at VIIth World Congress of the International Political Science Association, Brussels, 23 September, 1967

R. M. PUNNETT (Political Science)

Research

A comparison of Cabinet government in Britain and Canada

Publications and Papers *British Government and*

Politics, Heinemann, London, 1968, pp. 480

G. ROSEME (Political Science)

Research

The Soviet Union and the European Economic Community

P. L. ROSEN (Political Science)

Publications and Papers

"Constitutional Construction: The United States Supreme Court and the Social Sciences", paper presented to the Canadian Political Science Association, 5 June, 1968, University of Calgary, Calgary, Alberta

M. B. STEIN (Political Science)

Research

A Global Study of Social Credit, from Major Douglas to the present

Publications and Papers

"Federal Political Systems and Federal Societies", *World Politics*, Vol. 20, No. 2, July 1968

"The Other Ethnic Groups and Politics", Chapter 4, Book 9, *Report*, Royal Commission on Bilingualism and Biculturalism

Honours and Activities

Research Associate, Center of International Studies, Princeton University, 1967-68

Campus Representative, Woodrow Wilson Fellowship Foundation

H. VON RIEKHOFF (Political Science)

Research

NATO's strategic and political adjustments following the withdrawal of France

Polish diplomatic documents in connection with forthcoming publication on German-Polish

relations

Publications and Papers

NATO: Issues and Prospects.

Toronto, Canadian Institute of International Affairs, 1967, pp. iv, 170

"NATO: To Stay or Not to Stay", in Stephen Clarkson (ed.) *An Independent Foreign Policy for Canada?*, Toronto, McClelland and Stewart, 1968, pp. 160-172

"NATO Without France", *International Journal*, Vol. 23, No. 2, 1968, pp. 281-286

Honours and Activities

Guest Lecturer at McGill Conference on World Affairs, October 1967

A. M. WILLMS
(Public Administration)

Research

A study of "The History of Civil Service Legislation 1908-1968" for the Public Service Commission (with V. Wilson)

Publications and Papers

"The Administration of Research on Administration in the Government of Canada", *Canadian Public Administration*, Vol. 10, No. 4, December 1967, pp. 405-416

Honours and Activities

Elected treasurer of International House

Lectures to Intermediate Management Course, Public Service Commission

Psychology

D. K. BERNHARDT

Research

Measurement of intellectual development in preschool children

Study of student roles

E. J. BURWELL

Research

Measurement of intellectual development of preschool children

M. N. DONALD

Research

An experimental examination of individual and group influence in the negotiation process

Publications and Papers

"Factorial Explorations of the Self-concept", Canadian Psychological Association, 7 June, 1968

"Relationship Between Edwards Personal Preference Schedule and Progression Through the University", Canadian Psychological Association, 5 June, 1968 (with W. J. Bradley)

R. D. HOGE

Research

Studies of the factors affecting information search and decision making

Studies of second language learning and attitude change in a bilingual summer camp (with T. J. Ryan and L. Strickland)

Publications and Papers

"The effects of response uncertainty and degree of knowledge on subjective uncertainty", *Psychological Reports*, Vol. 22, 1968, pp. 1081-1090 (with J. T. Lanzetta)

A. B. LAVER

Research

The history of psychology

Honours and Activities

Appointed to a second term as member of the Human Resources Research and Advisory Committee of the Defence Research Board

M. E. MARSHALL

Research

The correspondence of G. T. Fechner and W. T. Preyer

A Fechner bibliography

Equivalence and distinctiveness stimulus pretraining in adult human subjects

Discriminative response latencies to visual forms following various types of verbal pretraining

Publications and Papers

"Facilitative effects of stimulus familiarization on paired associates verbal learning", *Psychonomic Science*, Vol. 10, No. 2, 1968, pp. 43-44 (with Hildegard Corbet)

"Some effects of amount of verbal pretraining and availability of verbal labels upon performance in a discriminative motor task", *Perceptual and Motor Skills*, Vol. 26, 1968, pp. 27-39

P. D. McCORMACK

Research

Monitoring eye movements during the learning of verbal paired-associate lists

Publications and Papers

"Monitoring eye movements of high and low anxiety subjects during the acquisition of competitive and non-competitive paired-associate lists", *Canadian Journal of Psychology*, Vol. 22, No. 2, 1968, pp. 105-113 (with T. E. Hannah)

"Monitoring eye movements during the learning of high and low meaningfulness paired-associate lists", *Psychonomic Science*, Vol. 8, No. 10, 1967, pp. 443-444 (with T. E. Hannah)

"Monitoring eye movements under conditions of high and low intralist response (meaningful) similarity", *ibid.*, No. 12, 1967, pp. 517-518 (with T. E. Hannah, W. J. Bradley and T. E. Moore)

"Reply to Coules and Avery", *Perceptual Motor Skills*, Vol. 25, No. 1, 1967, p. 256

"The Canadian Journal of Psychology: the second decade", *Canadian Psychologist*, Vol. 8, No. 3, 1967, pp. 226-228

"Monitoring eye movements during the learning of successive paired-associate lists", *Journal of Verbal Learning and Verbal Behavior*, Vol. 6, No. 6, 1967, pp. 950-953 (with E. J. Haltrecht and

T. E. Hannah)

Honours and Activities

Member, Canadian Psychological Association Membership Committee

Consulting Editor, Canadian Journal of Psychology, 1967

Chairman, Verbal Learning Paper Session, Canadian Psychological Association, 1968

A. J. RAY, JR.

Research

Electrophysiological correlates in one-way and shuttle-avoidance learning to pressurized air

Electrophysiological correlates in one-trial learning

Shuttle-avoidance learning in the salamander, *ambystoma trigrinum*

Learning in the salamander, *ambystoma maculatum*

Publications and Papers

"Pressurized air shuttle-avoidance and emotionality", *Journal of Genetic Psychology*, 1968, Vol. 112, pp. 43-48 (with Patricia Lenz)

"Instrumental light-avoidance by the earthworm", *Communications in Behavioral Biology*, 1968, Vol. 1, pp. 205-208

"Avoidance learning in the tiger salamander", *American Journal of Psychology*, 1967, Vol. 80, 642-643

"A combination stereotaxic drill press and electrode-carrier", *Behavioral Research Methods and Instruments*, 1968, Vol. 2, pp. 36-44 (with A. A. Raffler)

Avoidance learning in the tiger salamander, paper presented at the Eastern Psychological Association Meetings in Washington, D.C., 18-20 April, 1968

T. J. RYAN

Research

Individual differences in reaction to frustration

Basic studies of frustration in children

Behaviour of children in groups of various sizes

Second language acquisition and attitude change in a bilingual summer camp (with R. Hoge and L. Strickland)

Publications and Papers

"Frustrative nonreward theory applied to children's behaviour", *Psychological Bulletin*, Vol. 69, 1968, pp. 111-125 (with P. Watson)

"Stimulus generalization in retardates as a function of verbal reinforcement schedule and age", paper presented at Canadian Psychological Association convention, Calgary, June 1967 (with J. E. Strawbridge)

Honours and Activities

Appointed to Editorial Board of the Canadian Journal of Behavioral Science

H. M. SIMPSON

Research

Effects of overt responses on pupillary activity

Publications and Papers

"Pupillary activity during imagery tasks", paper presented as part of a symposium on Pupillometric Research at the meeting of the American Psychological Association, Washington, D.C., September 1967

"Effects of a task relevant response on pupil size", paper presented at the meeting of the Canadian Psychological Association, Calgary, June 1968

"Effects on pupil size of manual and verbal indicators of cognitive task fulfillment", *Perception and Psychophysics*, Vol. 3, 1968, pp. 185-190, (with A. Paivio)

M. C. SMITH

Research

Determination of the interval during which the visual image of a word aids in the short-term memory for that word

Investigation of how the rate of

scanning of a list of items is influenced by the number of items for which a subject must search

Measurement of reaction time to sequential stimuli, to determine whether information is processed sequentially or in parallel

Publications and Papers

"Theories of the Psychological refractory period", *Psychological Bulletin*, Vol. 67, 1967, pp. 202-213

"Reaction time to a second stimulus as a function of the intensity of a first stimulus", *Quarterly Journal of Experimental Psychology*, Vol. 19, 1967, pp. 125-135

"The psychological refractory period as a function of a first response", *ibid.*, pp. 350-352

"S-R compatibility and the psychological refractory period", *Canadian Journal of Psychology*, Vol. 21, 1967, pp. 496-503

"Monoptic and dichoptic metacontrast", *Perception and Psychophysics*, Vol. 3, 1968, pp. 237-239

L. H. STRICKLAND

Research

Second language acquisition and attitude change in a bilingual summer camp (with T. J. Ryan and R. D. Hoge)

Effects of variations in member behaviours upon group functioning in different communication networks

Modification of self-presentation in high need-for-approval individuals

Coalition formation in triads (with R. D. Hoge)

Honours and Activities

Chairman, Committee for Elections: Division 9, American Psychological Association (Society for the Psychological Study of Social Issues)

T. TOMBAUGH

Research

Effect of amount of training on extinction performance in a

discrete-trial operant situation

The effects of incentive shifts on reinforced and nonreinforced performance

An investigation of the parameters of delay of reinforcement

Publications and Papers

Motivation: Psychological Principles and Educational Implications, San Francisco, Chandler Publishing Co., 1967 (with M. H. Marx)

"The overtraining extinction effect with a discrete-trial bar pressing procedure", *Journal of Experimental Psychology*, Vol. 73, 1967, pp. 632-634

Honours and Activities

Associate Editor of *Psychological Reports*

F. R. WAKE

Publications and Papers

"Special education for adolescents", Council for Exceptional Children, Annual Meeting, Ottawa, 27 October, 1967

W. E. WALTHER

Publications and Papers

"Emotional aspects of coronary heart disease", annual refresher course, Ottawa Civic Hospital, Ottawa, 26 April, 1968

Honours and Activities

"The Drug Scene", talk given at Agudath Israel congregation, Ottawa, 21 January, 1968

"A Case for Hippies", talk given to wives of Kiwanis, Ottawa, 13 February, 1968

Carleton liaison, Rotary Adventures in Citizenship, 1968

R. A. WENDT

Honours and Activities

Re-appointed Chairman, Human Resources Research Advisory Committee (Defence Research Board)

D. W. ZIMMERMAN

Research

Learning in the absence of primary reinforcement
Models of distributions of test scores

Publications and Papers

"Dependence of test reliability upon heterogeneity of individual and group score distributions", *Educational and Psychological Measurement*, Vol. 28, 1968, pp. 41-46, (with R. H. Williams and G. J. Burkheimer)

"An extension of the Rulon formula for test reliability: the case of correlated true and error components of scores", *Journal of Experimental Education*, Vol. 36, 1968, pp. 94-96 (with R. H. Williams)

School of Social Work

S. BOWERS

Research

Development of Hypothesis on Similarities and Differences in Social Work Methods

Publications and Papers

"Social Work's Multi-Coloured Garment", *Social Work Education Reporter*, Vol. 16, 1968, pp. 47-62

"Self-Awareness: A Mark of Personhood", The Oaklawn Forum Lecture, Elkhart, Indiana, 18 April, 1968

Honours and Activities

Visiting Lecturer, University of Fribourg (Institute of Special Education), September 1967

Co-ordinator, Family Counseling Project, State University College, Potsdam, New York

Member, Commission on Accreditation, Council on Social Work Education

Member, Advisory Council to the Minister of Social and Family Services, Government of Ontario

Member of the Executive Board and Treasurer, International Association of Schools of Social

Work

Member, National Fellowship Selection Committee, Department of National Health and Welfare

M. V. KELLY

Research

Doctoral dissertation for University of Toronto, "Young Male Trainees in Program 5"

Publications and Papers

"The Impact of Poverty on Family Life", paper presented to staff and volunteers of Ottawa Family Service Center, 23 October, 1967

"Family Dynamics", an institute conducted for the New Brunswick Association of Professional Social Workers, 10 May, 1968

A. A. SELVAN

Publications and Papers

"Learning Theories and Patterns in Block and Concurrent Field Instruction", paper presented at 1968 Annual Program Meeting of the Council on Social Work Education, Minneapolis, 25 January, 1968

N. VANIER

Research

Doctoral dissertation for Columbia University School of Social Work, "Institutional Involvement and Social Class"

Publication and Papers

"Rendement Scolaire en Milieu D favoris ", *McGill Journal of Education*, Fall 1967, Vol. 2 No. 2, pp. 127-133

Honours and Activities

Research Advisory Committee, Department of National Health and Welfare

Sociology

D. P. FORCESE

Research

Research on Social Criticism in Canada, 1867-1967 (with

R. J. Huyda, Canadian Public Archives)

"Power and Military Alliance Cohesion: Thirteen Simulation Experiments", (unpublished doctoral dissertation, Washington University at St. Louis)

Publications and Papers

Leadership Patterns in a Manitoba Agricultural-Fishing Community (with L. B. Siemens), ARDA Condensed Report (CR-No. 6), Ottawa, 1967

Honours and Activities

Advisor to University Extension simulation program, University of Toronto, March, 1968

M. G. FRUMHARTZ

Research

Analysis of data collected for the Carleton Student Study

Honours and Activities

Appointed to Board of Governors of the Ontario Institute for Studies in Education.

S. S. GUTERMAN

Research

Secondary analysis of data from the Stirling County Studies with a view to testing theoretical formulations recently put forward by Thomas J. Scheff

A comparative study of the personality characteristics of Negroes in certain cities of Canada and the United States

Publications and Papers

"The Americanization of Norwegian Immigrants: A Study in Historical Sociology", *Sociology and Social Research*, Vol. 52, April 1968, pp. 252-270

J. R. HOFLEY

Research

Doctoral dissertation for the University of North Carolina, "Study of the relationship of lower class religion to fertility and

occupational mobility"

Study in Edmonton of ways in which unemployed men can be assisted and means by which current and future programs geared to these men can be evaluated and improved

Publications and Papers

"Spectrum of Family Life Styles in Ottawa and Region", paper presented at Ottawa Family Life Education Seminar, Protestant Children's Village, sponsored by Child Study Association of America, March 1968, and published in abridged form, Department of Public Welfare Dispatch, Ottawa, Vol. 5, No. 1, April 1968, pp. 13-23

"Lower-Class Religion: Moral Basis of a Backward Society", Learned Societies Meetings, Calgary, 7 June, 1968

"Social Research and Social Action", Canadian Public Welfare Association Annual Meetings, Ottawa, June 1968

Honours and Activities

Consultant to Canadian Welfare Council

K. A. MOZERSKY

Research

Effects of railroad branch-line abandonment on small communities in Western Canada, for doctoral dissertation, Cornell University

Publications and Papers

"Social Correlates of Drinking and Driving", *Supplement to the Quarterly Journal of Studies on Alcohol*, May 1968, (with Ronald Cosper)

J. A. PORTER

Studies in the Public Evaluation of Occupations and in Occupational Mobility

Publications and Papers

"The Future of Upward Mobility", *American Sociological Review*, Vol. 33, February 1968, pp. 5-19

"Some Observations on Comparative Studies", *International Institute*

for *Labour Studies Bulletin*, Vol. 3, November 1967, pp. 82-104

"Le caractère canadien au XXème siècle", *Revue de Psychologie des Peuples*, numero du 3^{me} Trimestre, 1967, pp. 238-247

"Occupational Prestige in Canada", *The Canadian Review of Sociology and Anthropology*, Vol. 4, 1967 (with Peter C. Pineo)

Canadian Society: Sociological Perspective, 3d edition, Toronto, MacMillan, 1968, x + 877 pp. (Editor with Bernard R. Blishen and Frank E. Jones)

Honours and Activities

Elected Fellow of the Royal Society of Canada

Appointed to Editorial Board, *Science Forum*

Elected to Executive Committee, Social Science Research Council of Canada

"Politics and Minorities: Canada and the United States", Third Annual Inter-Collegiate Conference on Canadian-American Relations, Michigan State University, 23 February, 1968

"Education, Values and Social Change", Althouse College of Education, University of Western Ontario, 6 March, 1968

"Inequalities in Education", Public Lecture, University of British Columbia, 1 March, 1968

"Mr. Trudeau and the Future of Canadian Federalism", Department of Political Science, Duke University, North Carolina, 10 May, 1968

Seminars on Social Mobility and Highly Qualified Manpower at: Department of Labour and the Ottawa Political Economy Association, 11 January, 1968; Sociology Department, Dalhousie University, 26 January, 1968; Sociology Department, Simon Fraser University, 28 February, 1968; Sociology Department, Duke University, 9 May, 1968

V. F. VALENTINE

Research

Preparation of a paper dealing with

"The Principle of Equivalent Functions in the Acculturation of Canadian Métis, Indian and Eskimo Groups"

A study, with three graduate sociology students, of the use of space in three Ottawa low cost housing units

Completion of a study of Canadian Indian leadership patterns

Publications and Papers

Eskimo of the Canadian Arctic, The Carleton Library, No. 41 McClelland and Stewart Limited, Toronto, 1968, pp. 241 (with F. G. Vallee)

Background Readings for the Montmorency Policy Conference, Confederation Press, Ottawa, August 1967, pp. 650

"Report on the Montmorency Conference", Confederation Press, Ottawa, September 1967, pp. 145 (with Fraser Symington)

"Chairman's Report Convention Policy Committee Meetings", Confederation Press, Ottawa, October, 1967, pp. 47 (with The Honourable William Davis and Fraser Symington)

Honours and Activities

Social Science representative to the Research Committee of the Arctic Institute of North America

Vice-President, Canadian Research Centre for Anthropology

Member, Board of Editors for *Anthropologica*

Chairman, Policy Committee, Progressive Conservative Centennial Convention Committee and Co-ordinator Montmorency Policy Advisory Conference

Member, Board of Directors of the Canadian Centre for Community Studies

F. G. VALLEE

Research

The social power and viability of French Canadian communities outside the Province of Quebec

Publications and Papers

A Survey of the Contemporary

- Indians, of Canada*, Vol. 2, Ottawa, Department of Indian Affairs and Northern Development, and Queen's Printer, 1967, pp. 250 (with Harry Hawthorn), *et. al.*
- Kabloonaa and Eskimo in the Central Keewatin*, Canadian Research Centre for Anthropology, Ottawa, 1967 (re-issue), pp. 232
- Povungnetuk and its Cooperative: A Case Study in Community Change*, Department of Indian Affairs and Northern Development, Ottawa, 1967, pp. 62
- Eskimo of the Canadian Arctic*, edited and introduced with V. F. Valentine, The Carleton Library, McClelland and Stewart, Toronto, 1968
- "Canadian Society: Trends and Prospects", in Bernard Blishen, *et al.*, (Eds.), *Canadian Society*, Third Edition, MacMillan of Canada, Toronto, 1968 (with D. R. Whyte)
- "Stresses of Change and Mental Health in the Canadian North", paper presented to the Circumpolar Conference on Health Related Problems, University of Alaska, July, 1967, and to be published in *Journal of Environmental Research* (American Medical Association), Summer, 1968, pp. 23
- "The Viability of French Canadian Groups Outside Quebec", paper presented to the Centennial Conference on Regionalism and Confederation, University of Saskatchewan, August 1967, and to be published in *Regionalism and Confederation*, Mason Wade (ed.) University of Toronto Press, Summer 1968, pp. 15
- "Ethnic Pluralism in Canada", paper presented to Summer Institute in Canadian Studies, University of Calgary, August 1967
- "Informal Social Organization in Community Planning", paper presented to the Annual Conference of the Community Planning Association of Canada, Ottawa, October 1967
- "The Alienation of Native People: A Canadian Problem", paper read at the Ottawa-Montreal Conference of the United Church of Canada, Carleton University, May 1968
- Honours and Activities*
- Recipient of Centennial Medal in recognition of service to the nation, July 1967
- Editorial Director, *Anthropologica*
- Occasional Consultant to Company of Young Canadians, Ottawa
- Citizenship Council, Oblate Commission on Indians and Eskimos
- D. R. WHYTE
- Research*
- The Institutionalization of Science
- Publications and Papers*
- "Canadian Society: Trends and Perspectives", in *Canadian Society*, (ed.) B. Blishen *et al.*, MacMillan (3rd edition) (with S. Vallee)
- "Religion and the Rural Church", in *Canadian Society* (ed.) B. Blishen *et al.*, MacMillan, (3rd Edition)
- "Functionalism and Final Causes", paper presented at the Annual Meetings of the American Sociological Association, San Francisco, August 1967
- Honours and Activities*
- Guest Lecturer, "Post-Industrial Developments in Canadian Society", Executive Advanced Advertising Course, Montreal, October 1967
- ST. PATRICK'S COLLEGE
DIVISION
- F. J. BLUM
- Publications and Papers*
- "A Note on the Neglected Middle in Teaching Undergraduate Psychology", *Canadian Psychologist*, Vol. 9, No. 1, January 1968
- O. CONDEMINE
- Research*
- Research for a critical edition of the Works of Octave Crémazie, to be presented as a doctoral dissertation

Publications and Papers

Arthur de Bussieres, cet inconnu, dans *L'Ecole Littéraire de Montreal*, Archives des Lettres canadiennes, tome 11, Montreal, Fides, 1963, pp. 110-130

Francois-Xavier Garneau, poete, dans *Francois-Xavier Garneau, Aspects Littéraires de son oeuvre*, Ottawa, Editions de l'Universite d'Ottawa, 1966, pp. 11-43

Honours and Activities

Canada Council grant in 1967

Canada Council grant in 1968

L. A. CORMICAN

Publications and Papers

The concept of "The logic of Poetry" in Coleridge's *Biographic Literaria* and related criticism

"T. S. Eliot and Social Biology" in *A Selection from Scrutiny*, compiled by F. R. Leavis, Cambridge University Press, 1968, reprinted from *Scrutiny*, Vol. 17, 1950

W. FOBES

Research

Credit Cooperatives and Farm Credit in Western Germany

G. IRVING

Publications and Papers

"The Caldwell Report on Indian Residential Schools — Policy Making in Indian Education", presented at the National meeting of the National Association of Principals and Administrators of Indian Residences in Vancouver, B.C., 14 March, 1968

"Sociological Theories of Crime Causation", topic of two sessions in a program for Probation Supervisors, sponsored by the Department of the Attorney General, Province of Ontario, Toronto, 9-10 May, 1968

J. GREATREX

Research

On Cardinal Beaufort for a doctoral thesis

Honours and Activities

Canada Council Doctoral grant for research in England for Summer of 1967 and Summer of 1968

L. JACKSON

Publications and Papers

A Bibliography of Chinese Grammar, Ohio State Research Foundation, Project on Linguistic Analysis (POLA) No. 4, 1963, (with William S. Y Wang)

"A Fragment of Chinese Grammar: *ba* and *bei*", in POLA, No. 7, 1963, (with S. Annear)

Honours and Activities

Canada Council Doctoral Fellowship, Summer, 1968

A. LOZANO

Research

A doctoral thesis entitled: *The Evolution of a Literary Generation: Torrente Ballester, 1940-65*

H. A. MACDOUGALL

Publications and Papers

"Newman—Historian or Apologist?", paper presented at Canadian Historical Association, Calgary, June 1968

Lord Acton — New Catholic Encyclopedia (1967)

J. T. O'MANIQUE

Research

The concept of energy in Teilhard de Chardin

The concept of consciousness in Teilhard and some American Pragmatists

Publications and Papers

"Marx, Teilhard and the Theory of Evolution", presented to The Aquinas Society, Cambridge University, March 1967

"A Commentary on Teilhard's *Man's Place in Nature*", presented to The Teilhard Association, London, England, April 1967

"Teilhard's Lamarckism", *The*

Teilhard Review, Vol.2, pp. 34-41,
Winter 1966/67

"Teilhard and Entropy: A discussion
of the irreversibility of the
evolutionary process", *ibid.*, Vol. 2,
No. 1, pp. 2-10, Summer 1967

*The Hyperphysics of Teilhard de
Chardin*, Teilhard Study Series,
Vol. 3, to be published summer
1968 by Garstone Press, London,
England

M. RYAN

Research

A study of poetic development and
impersonality in Yeats and Eliot

C. SCHUETZ

Honours and Activities

Participation in a public debate
"Can Constitutional Changes Save
Canadian Unity?", 29 January,
1968, St. Patrick's College (with
Mr. Douglas Fisher)

FACULTY OF SCIENCE

Biology

I. BAYLY

Research

Ecology of Wetlands, with special
reference to Typha (Cattail)
communities

C. A. BARLOW

Research

An analysis of the distribution,
abundance, and seasonal activity
of insects in Gatineau Park

An investigation of the comparative
effects of constant and varying
temperatures on the dynamics of
insect populations

Effects of temperature acclimation on
survival of the grain weevil at
extreme temperatures

Effects of temperature acclimation
on amount and percent saturation
of body lipids in the grain weevil

Publications and Papers

"Change in the photic reaction due
to DDT in the grain weevil,

Sitophilus granarius (L.)
(Coleoptera: Curculionidae)",
Canadian Journal of Zoology,
Vol. 46, No. 1, 1968, pp. 35-40

D. R. GARDNER

Research

Investigation of the presence and
location of biogenic amines in fish
brain

The effect of ions and drugs on
Molluscan neurones

Electrical activity of fish hypo-
thalamus — the effect of
temperature change

Publications and Papers

"A comparison of the effects of
sodium and lithium ions on action
potentials from *Helix aspersa*
neurones", *Journal of Com-
parative Biochemistry and
Physiology*, Vol. 25, 1968,
pp. 33-48 (with G. A. Kerkut)

Honours and Activities

Member of the Society of Experi-
mental Biology

W. I. ILLMAN

Research

Investigation of three assemblages
of sea-weeds in deposits 5-11
thousand years of age

Anthraxnose production in tomato
by potato black-dot fungus

Indole metabolism of *Suillus
americanus*

Publications and Papers

"Indole metabolites produced in
tryptophane metabolism by
Suillus americanus", American
Mycological Society, The American
Institute of Biological Sciences
Meetings, College Station, Texas,
30 August, 1967 (with
K. Unligil)

Honours and Activities

Chairman, Eastern Ontario Section,
Canadian Phytopathological
Society

V. N. IYER

Research

Physical and genetic organization in bacterial chromosomes and episomes

Mutations regulating molecular recombination events

Publications and Papers

"The Mitomycins and Porfiromycins: Mechanism of Action", *Antibiotics*, Vol. 1, 1967, pp. 211-244

"Three-step DNA-RNA hybridization procedure for identification of the early transcribing regions in Coliphage lambda", *Bacteriological Proceedings*, Vol. 88, 1968, p. 159

J. D. H. LAMBERT

Research

Analysis of conifer-hardwood and boreal vegetation in the Ottawa River — Gatineau Watershed to determine major environmental factors pertinent to vegetational change

Phytosociological studies of the Northern Conifer — Hardwood Forests of Eastern Ontario

Publications and Papers

"Proposed Ecological Reserves in the Canadian Subarctic and Arctic", symposium on Natural Areas in Canada sponsored by the Ecology Section of the Canadian Botanical Association, Lakehead University, 12 June, 1968

Honours and Activities

Requested by the Canadian Wildlife Service to join their range biologist during June in undertaking a survey of the major winter and summer grazing areas of the barren ground caribou west of Hudson's Bay

Awarded Ph.D., University of British Columbia, 1967

P. E. LEE

Research

Characterization of insect-transmitted

plant virus and insect virus
Localization and development of viruses in cells in vitro

Publications and Papers

"Morphology of wheat striate mosaic virus and its localization in infected cells", *Virology*, Vol. 33, 1967, pp. 84-94

"Partial purification of wheat striate mosaic virus and fine structural studies of the virus", *ibid.* Vol. 34, 1968, pp. 583-589

M. E. McCULLY

Research

Development of a culture system for growing intertidal marine algae in the laboratory using an artificial sea water medium

A physiological and histological study of regeneration of new plants from small segments of the brown alga *Fucus* in culture flasks

Histological study of the early stages of the developing embryo of *Fucus*. This study includes the use of radioactive compounds and autoradiography to follow changes in the patterns of RNA and protein synthesis during early development. Radioactive precursors are also being used to locate the sites of synthesis and secretion of the polysaccharides alginic acid and fucoidin by the developing embryos

Study of the synthesis and secretion of polysaccharides by the highly specialized epidermal cells of the emerging lateral roots of the corn plant

Publications and Papers

"Histological studies on the genus *Fucus*. III. Fine structure and possible function of the epidermal cells", *Journal of Cell Science*, Vol. 3, pp. 1-16, 1968

Plant Structure and Function: A Pictorial and Physiological Approach, The Macmillan Co., New York, in press, pp. 170 (with Dr. T. P. O'Brien)

H. H. J. NESBITT

Research

Factors affecting the hypopial stage
in Acarid mites

Honours and Activities

Member of the Appraisals Committee
of the Ontario Council on
Graduate Studies

Chairman, Screening Committee on
Biological Sciences, Forestry and
Wildlife, Grants-in-Aid of
Research, Department of
University Affairs

D. A. SMITH

Research

Taxonomy, distribution, ecology and
physiology of Ontario and Quebec
deer mice (*Peromyscus*)

Migration and longevity of bats

Ectoparasites of small mammals

Taxonomy, distribution and breeding
biology of small mammals in
Uganda

Publications and Papers

"The land, people and wildlife of
Uganda", Annual Banquet, The
Ottawa Field-Naturalists' Club,
7 May, 1968

Honours and Activities

Visiting Professor, Faculty of
Agriculture, Makerere University
College, Kampala, Uganda, June
1966 to July 1967

Member of Ontario Region
Consulting Panel of the Canadian
Subcommittee for the Conservation
of Ecosystems; Canadian Commit-
tee for the International Biological
Programme

Book Review Editor, The Canadian
Field-Naturalist
Member, Subscription Committee,
American Society of Mammalogists

J. A. WEBB

Research

Carbohydrate metabolism in
Cucurbita

Photosynthetic incorporation of ^{14}C
into plant cells

Translocation and distribution sugars
between plant cells and tissues

Publications and Papers

" $^{14}\text{CO}_2$ assimilation and sugar
biosynthesis in Cucurbita",
paper presented at the VIIth
International Congress Biochemis-
try, Tokyo, August 1967

"Sugar synthesis and the pattern of
translocation in Cucurbita",
lecture given at Osaka City
University, Japan, August 1967

"Metabolism of $^{14}\text{CO}_2$ in Cucurbita
tissues and some comments on
translocation", lecture given at
University of Toronto, January
1968

"Sugar metabolism in Cucurbita
leaves", paper presented to the
Canadian Society of Plant
Physiologists, University of
Western Ontario, June 1968

Honours and Activities

Participant in the First International
Congress of Photosynthesis,
Freudenstadt, West Germany,
May 1968

F. WIGHTMAN

Research

Enzymatic and radiochemical studies
on the metabolism of tryptophan
and other indole compounds in
cell-free systems from higher
plants with particular reference
to the biosynthesis of the growth
hormone, 3-indoleacetic acid

Intracellular location, isolation and
characterization of transaminase
enzymes in young seedling plants

Publications and Papers

"Intermediary steps in the enzymic
conversion of tryptophan to IAA
in cell-free systems from higher
plants", paper presented at 6th
International Conference on Plant
Growth Substances, Carleton
University, July 1967

"Formation of 3-indole-pyruvic acid
during the enzymic conversion of
tryptophan to IAA in cell-free
systems from Mung bean
seedlings", *Biochemistry and
Physiology of Plant Growth*

Substances, The Runge Press, Ottawa, 1968 (In press) (with D. Cohen)

Co-editor, *Biochemistry and Physiology of Plant Growth Substances* (Proceedings of the 6th International Conference on Plant Growth Substances), The Runge Press, Ottawa, 1968 (In press) (with G. Setterfield)

H. YAMAZASKI

Research

The mechanism of early inhibition by RNA phage of protein and RNA synthesis in the infected bacteria

The mechanism controlling differential expression of phage genes

The mode of action of an antibiotics, cycloheximide

Publications and Papers

"The mechanism of early inhibition by R17 phage of protein and RNA synthesis in the infected bacteria", presented to Ottawa Biological and Biochemical Society, University of Ottawa, 15 January, 1968

Chemistry

C. H. AMBERG

Research

Interaction of gases with desulfurization catalysts, using infrared spectroscopic and mass spectrometric techniques

Investigation of hydroxyl groups in calcium hydroxyapatite by infrared spectroscopy

Studies in heterogeneous catalysis using chromatographic microreactors

Publications and Papers

"The OH-group in hydroxyapatite and fluoridated hydroxyapatite", invited paper at the International Symposium on Heterogeneous Catalysis, Roermond, The Netherlands, 3-6 July, 1967

"Anwendung der Ultrarot-Spektroskopie auf Zwischengrenzflächenprobleme und in der Katalyseforschung", lecture

delivered at the Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin-Dahlem, 10 July, 1967

"Infrared spectroscopy in surface chemistry", by Michael L. Hair, Marcel Dekker, New York, 1967, book review in *Surface Science* Vol. 10, 1968, p. 128

"The adsorption of H₂S on Alumina", talk given at Discussion on Heterogeneous Catalysis, Division of Applied Chemistry, National Research Council, Ottawa, 16 May, 1968

Honours and Activities

Canadian Delegate to the Council of the International Congress on Catalysis, Moscow, 22 June, 1968

Attended the Fourth International Congress, Moscow, 23-29 June, 1968

External Examiner in Physical Chemistry, University of Guyana

Lecturer and consultant on catalyst problems, DuPont of Canada Ltd., Maitland Works

President, Family Service Centre of Ottawa, until March 1968

J. W. APSIMON

Research

Synthetic and structural studies on natural products

Publications and Papers

"Diterpene Chemistry II. The preferential oxidation of the vinyl groups of pimaric and sandaracopimaric acids", *Canadian Journal of Chemistry*, Vol. 45, 1967, pp. 1439-1445 (with A. S. Y. Chan, W. G. Craig and H. Krehm)

"The measurement of angles and distances in molecular models. II. A device for the benzene rings", *ibid.*, Vol. 46, 1968, pp. 808-809

"The measurement of angles and distances in molecular models. III. A general device", *ibid.*, Vol. 46, 1968, pp. 809-810 (with W. G. Craig, A. Demayo and A. A. Raffler)

"The Chemistry of Natural

- Products", series of lectures delivered at the Royal Canadian Institute Summer Science Programme, Lakefield, Ontario, 24-30 July, 1967
- "Methyl Migration by Epoxide Cleavage", Gordon Conference on steroids and other natural products, New Hampshire, 2 August, 1967
- "The Molecules of Nature", Junior Science Lecture, EXPO '67, DuPont Auditorium, 19 August, 1967
- "Epoxide cleavage as a means of methyl migration: Model studies in cucurbitacin synthesis: Ring A aromatic 9 β -methyl steroids", *Chemical Communications*, 1967, pp. 1214-1215 (with R. R. King)
- "Some approaches to triterpene synthesis", McMaster University, 9 February, 1968
- "Rearrangements induced by epoxide cleavage", Université Laval, 27 February, 1968
- "Triterpene synthesis", research seminar at Bristol Laboratories Ltd., Montreal, 24 May, 1968
- "Methyl migration by epoxide cleavage as a route to triterpene synthesis", 51st Canadian Chemical Conference, Vancouver, 4 June, 1968 (with R. R. King and J. J. Rosenfeld)

Honours and Activities

- Awarded C. D. Howe Memorial Fellowship, 1968-69
- Awarded N.R.C. Senior Research Fellowship, 1968-69
- Sessional Chairman, 51st Canadian Chemical Conference, Vancouver, June, 1968
- Member at large, Canadian Olympic Association
- Grant-in-aid Chairman and National Team selection committee member, National Fencing Association

C. L. CHAKRABARTI

Research

- Mechanism of formation of metal atoms in flames
- Sensitivity, selectivity, and the nature of interferences in atomic absorption spectroscopy

- Metal-dithiocarbamate complexes
- Complexing behaviour and stability of dithiocarbamic acids
- Solvent extraction chemistry of metal dithiocarbamates

Publications and Papers

- "The atomic absorption spectroscopy of tellurium", *Analytica Chimica Acta*, Vol. 39, 1967, pp. 293-299
- "The atomic absorption spectroscopy of selenium", *ibid.*, Vol. 42, 1968, pp. 379-387
- "The role of complexing agents organic solvents in atomic absorption spectroscopy," proceedings of XIII Colloquium Spectroscopicum Internationale, Ottawa, 19-23 June, 1967, pp. 286-287; *Applied Spectroscopy*, Vol. 21, 1967, pp. 391-392 (with S. P. Singhal)
- "Studies on the complexing behaviour of dithiocarbamic acids", presented at the 51st Canadian Chemical Conference and Exhibition of the Chemical Institute of Canada, Vancouver, 3 June, 1968 (with K. I. Aspila and V. S. Sastri)
- "The metal-oxygen bond and the population of the ground state", presented at the 51st Canadian Chemical Conference and Exhibition of the Chemical Institute of Canada, Vancouver, 3 June, 1968 (with V. S. Sastri and D. E. Willis)

Honours and Activities

- Co-organizer and sessional chairman, 15th Spectroscopy Symposium of Canada, Toronto
- Elected executive member of The Chemical Institute of Canada, Ottawa section
- Faculty Adviser to Carleton University Student Chapter of The Chemical Institute of Canada

J. M. HOLMES

Research

- Study of the precipitation and adsorptive properties of calcium hydroxyapatite (bone mineral)
- Comparison of the adsorption of a number of gases on a variety of solid adsorbents at selected

temperatures

Honours and Activities

Past Chairman of the Ontario
Council of University Faculty
Associations

Centennial Medal

Member of the Credentials Com-
mittee of the Chemical Institute of
Canada

"Effect of degassing temperature on
surface area of hydroxyapatite",
paper presented at the Amherst
Adsorption Conference,
13 October, 1967

"Studies of adsorption on
hydroxyapatite", seminar presented
at Shawinigan Chemicals Limited
Research Laboratory, Montreal,
12 December, 1967

Member of the Ontario Committee on
Student Awards

J. A. KONINGSTEIN

Research

Theoretical chemistry — Electronic
structure of atoms and molecules
and the scattering tensor for first
and the higher order raman
processes

Spectroscopy — Laser induced
phonon and electronic spectra of
rare earth garnet crystals

Publications and Papers

"Polarized Electronic Raman Effect
of Eu:YUO.", *Physical Review
Letters*, Vol. 18, 1967, pp. 831-832
(with O. S. Mortensen)

"Vibronic Coupling and the Electro-
nic Raman Effect", *Chemical
Physics Letters*, Vol. 1, 1967,
pp. 409-410 (with O. S. Mortensen)

"On the Electronic Raman Scattering
Tensor of the Trivalent Ce ion in
a Hexagonal Crystal Field",
ibid., Vol. 1, 1968, pp. 693-696
(with O. S. Mortensen)

"Experimental Observation of an
Antisymmetric Raman Scattering
Tensor", *Nature*, Vol. 217, 1968,
pp. 445-446 (with O. S. Mortensen)

"Electronic Raman Spectra III,
Absolute Cross Sections for
Electronic Raman and Rayleigh
Scattering", *Physical Review*,

Vol. 168, 1968, pp. 75-78 (with
O. S. Mortensen)

"Electronic Raman Spectroscopy",
Laser Review, Vol. 1, 1968, pp. 5-6
(with O. E. Mortensen)

"Crystal Fields of Trivalent Rare
Earth Ions in Garnet Host
Lattices, Optical Properties of
Solids", (Ed.) H. M. Crosswhite
and H. W. Moos, Interscience
Publishers, New York, 1967,
pp. 105-115

"Electronic Raman Spectra II,
Asymmetry of the Scattering
Tensor of Trivalent Rare Earth
Ions", *Journal of Chemical Physics*
(in press)

"Laser Excited Raman Spectra of
Single Crystals", presented at First
International Conference on Laser
Applications, Paris, 18-23 July,
1967

"Laser Excited Electronic Raman
Transitions", presented at
Colloquium Spectroscopicum
Internationale, Debrecen,
Hungary, 7-12 August, 1967
(with O. S. Mortensen)

"Laser Excited Electronic Raman
Effects of Rare Earth Garnets and
Vanadates", presented at 9th
European Congress on Molecular
Spectroscopy, Madrid, Spain,
10-15 September, 1967 (with
O. S. Mortensen)

"Electronic Raman Effects", presented
at Symposium on Molecular
Structure and Spectroscopy,
Ohio State University,
Columbus, Ohio, 6-10 September,
1967 (with O. S. Mortensen)

"On the Theory of the Antisymmetry
of the Scattering Tensor of
Electronic Raman Transitions of
Rare Earth Ions", presented at
Mid-winter Solid State Research
Conference, Newport Beach,
California, 15-19 January, 1968

"Vibrational and Electronic Raman
Effect", presented at Seventh
National Meeting, Society of
Applied Spectroscopy, Chicago,
14-18 May, 1968

Honours and Activities

Canadian delegate to the First
International Conference on Laser
Applications, Paris, 18-23 July,

1967

Chairman, Session on Infrared Spectroscopy, XIV Colloquium Spectroscopicum Internationale, Debrecen, Hungary, 7-12 August, 1967

Visiting Professor, Unilever Research Laboratory, Vlaardingen, Netherlands, June-July 1967

Travel Grant from N.R.C. to present a paper in Madrid on the 9th European Congress on Molecular Spectroscopy, 10-15 September 1967

Invited paper, 7th National Meeting, Society for Applied Spectroscopy, Chicago, 14-18 May, 1968

P. KRUIS

Research

The study of structural changes in electrolyte solutions using ultrasonic techniques

The study of critical solution phenomena in liquid mixtures

Cavitation-induced chemical reactions

Publications and Papers

"Ultrasonic Absorption of Dimethyl Sulphoxide Solutions of Alkali Halides", presented at the 75th meeting of the Acoustical Society of America, 24 May, 1968 (with D. R. Dickson)

"On the Determination of Absolute Concentrations of Molecules in Excited States by Line Absorption", presented at the 8th Informal Conference on Photochemistry, 18 June, 1968

C. H. LANGFORD

Research

Complex formation and solvent exchange reactions of 3^+ ions in Aprotic Media: stopped flow and nuclear magnetic resonance kinetic studies

Kinetic order with respect to solvent: Correlation of Nuclear magnetic resonance preferential solvation studies with rates of substitution reactions of metal complexes

Rates and mechanisms of electron

transfer reactions of metal-dithiene complexes

Nuclear magnetic resonance studies of preferential solvation

Publications and Papers

"Acetonitrile Exchange Reactions in Solutions of Ni(III) Ions", *Inorganic Chemistry*, Vol. 6, 1967, pp. 1252-1254 (with D. K. Ravage and T. R. Stengle)

"Anations of Cis $[\text{Coen}_2\text{NO}_2\text{DMSO}]^{2+}$ in Dimethylsulfoxide: Dissociative Interchange", *ibid.*, Vol. 7, 1968, pp. 1032-1034 (with W. R. Muir)

"The Dissociative Interchange Mechanism for the Formation of Acidopentaamine cobalt (III) Ions", *Journal of the American Chemical Society*, Vol. 89, 1967, pp. 3141-3144 (with W. R. Muir)

"Thermodynamics of Formation of $\text{CO}(\text{NH}_3)_5\text{Cl}^{2+}$; Separation of Environmental Effects", *Journal of Physical Chemistry*, Vol. 71, 1967, pp. 2602-2605 (with W. R. Muir)

"The Uses of Nuclear Magnetic Resonance in the Study of Ligand Substitution", *Co-ordination Chemistry Reviews*, Vol. 2, 1967, pp. 349-370 (with T. R. Stengle)

"Kinetic Order with Respect to Solvent: Acid Hydrolysis and Preferential Solvation of the Reineckate Ion", *Canadian Journal of Chemistry*, Vol. 45, 1967, pp. 3049-3053 (with J. F. White)

"Ligand Substitution Dynamics", *Chemistry and Engineering News*, Vol. 46, 1968, pp. 68-75 (with H. B. Gray)

"Anations of Cis $[\text{Coen}_2\text{NO}_2\text{DMSO}]^{2+}$ in Dimethylsulfoxide: Dissociative Interchange", 155th National Meeting of the American Chemical Society, San Francisco, California, 1-5 April, 1968

Honours and Activities

Awarded Alfred P. Sloan Foundation Fellowship for 1968-1970

Taught enrichment chemistry for U.S. National Science Foundation Summer Secondary Science

Training Program at Mt. Hermon
School Mass., July 1967
Delivered guest lectures to Chemistry
departments at Case-Western
Reserve University, Ohio State
University, Ohio

P. M. LAUGHTON

Research

Secondary deuterium isotope effect
on acidities
Solubility of nonelectrolytes in
light and heavy water
Gas hydrates in heavy water
Forced Claisen condensation

Honours and Activities

Staff member, National Workshop
on the implementation of the new
Scout program, Ottawa,
3-7 January, 1968

M. PARRIS

Research

Mechanisms of some coordination
compounds reactions

Publications and Papers

"Hexakis (methylamine) chromium
(III) and cobalt (III) ions",
*Inorganic Nuclear Chemistry
Letters*, Vol. 3, p. 337, 1967 (with
F. N. Feiner)

"Circular dichroism in copper (II)
complexes of some
biglycylethlenediamine analogs",
*Journal of American Chemical
Society*, Vol. 90, p. 1909, 1968
(with A. E. Hodges)

R. A. SHIGEISHI

Research

A study of chemisorption problems
with the field ion microscope

Publications and Papers

"The dielectric constant of gases
absorbed on porous glass treated
to remove siland groups",
Canadian Journal of Chemistry,
Vol. 44, 1966, p. 1153 (with
R. L. McIntosh)

C. S. TSAI

Research

Mechanism of Enzymic Decarboxy-

lation

Kinetics of Enzymic Dehydrogenation

Mode of Action of Lysozyme

Publications and Papers

"Linear substituent effect of
2,2'bipyridyls", *Canadian Journal
of Chemistry*, Vol. 45, p. 2862,
1967

"Relative reactivities of primary
alcohols as substrates of liver
alcohol dehydrogenase",
Canadian Journal of Biochemistry
Vol. 46, p. 381, 1968

"Kinetic studies of enzymic
dehydrogenation of carbinols",
Canadian Federation of Biological
Societies, McGill University,
5-7 July, 1967

"Dissociative behaviour of a
lipoprotein: B-lipovitellin",
Seventh International Congress of
Biochemistry, Tokyo, 19-25
August, 1967 (with W. H. Cook)

R. H. WIGHTMAN

Research

Synthetic approaches to polycyclic
unsaturated hydrocarbon systems
Syntheses of biologically important
naturally occurring products
Development of new synthetic
methods for triply substituted
olefins

Honours and Activities

Guest worker, National Research
Council, Division of Pure
Chemistry, Summer 1968

D. R. WILES

Research

Nuclear recoil chemistry of
organometallic compounds
Nuclear recoil chemistry of alkali
iodates
Studies of the chemistry of ion
implantation
Studies of transfer annealing
phenomena in inorganic solids
Theoretical studies of chemical
interactions in high-energy
interatomic collisions

Publications and Papers

"Theoretical views of Szilard

Chalmers reactions in solid systems. I. Parent reformation by an extreme back-diffusion model", *Canadian Journal of Chemistry*, Vol. 45, 1967, p. 1813 (with W. H. Wong)

"Radioactive $\text{Mn}(\text{CO})_5$ radicals in neutron-irradiated Manganese carbonyl compounds", *Chemical Communications*, 1968, p. 519 (with I. G. de Jong)

"Stoichiometry—Old and New", *Canadian Journal of Chemical Education*, Vol. 3, No. 2, 1968, p. 10.

"Atomic Structure: the present picture", *Ibid.*, Vol. 3, No. 3, p. 7

"Recoil-Induced Chemical Reactions in Manganese Carbonyl Compounds", presented at Fourth International Hot Atom Symposium, Kyoto, Japan, October 1967

"Thermal and radiation annealing $^{131}\text{I}^-$ doped iodate crystals", *ibid.*, (with A. V. Bellido)

"Recent studies in hot atom chemistry", presented at seminar, State University of New York, Buffalo, New York, May 1968

"Mechanisms of recoil recombination in metal carbonyls", presented at 51st Annual conference, Chemical Institute of Canada, Vancouver, June, 1968

Honours and Activities

Director of Education and Student Affairs, Chemical Institute of Canada

Member, Editorial Board, *Chemistry in Canada*

Member, Editorial Board, *Science Affairs*

Member, Editorial Board, *Canadian Chemical Education*

Member, Tour Speakers Committee, Chemical Institute of Canada

Director, Chairman of House Committee, Carleton University Faculty Club

"Preparation of Volatile Metal Chlorides from their Ores", U.S. Patent, June 1968 (with B. R. Hollebone)

Geology

G. Y. CHAO

Research

Crystal structure of monoclinic and hexagonal chlorapatites

Refinement of crystal structure of parahopeite $\text{Zn}_2(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$

Carletonite—a new mineral

Crystal structure of carletonite

Minerals from Mt. St. Hilaire, Quebec

Publications and Papers

"Minerals from the nepheline syenite, Mt. St. Hilaire", *Canadian Mineralogist*, Vol. 9, Part 1, 1967, p. 109 (with D. C. Harris, A. W. Hounslow, J. A. Mandarino and G. Perrault)

"Geikeilite, a new Canadian occurrence", *Canadian Mineralogist*, Vol. 9, Part 1, 1967, p. 95

"Leucophanite, elpidite and narsarsukite from the Desourdy Quarry Mt. St. Hilaire", presented to the Meeting of Mineralogical Association of Canada, August 1967

"Monoclinic chlorapatite from Crow Lake, Ontario", presented to the Meeting of the Mineralogical Association of Canada, August 1967

"Crystallographic computer programs at Carleton University", presented to the Meeting of Ottawa Crystallographers Colloquium, June 1968

A. F. GREGORY

Research

Aeromagnetic surveys as an aid in mapping geologic structure

Geology and geophysics of selected mineral deposits in the Grenville geological province

Publications and Papers

"Minerals, Rocks and Geologic Methods", two talks to Grade 11 and 12 students at Rideau High School, 8 November, 1967

"Principles and Applications of Gamma-Ray Spectrometry in Mineral Exploration", paper

presented to the Canadian
Exploration Geophysical Society,
Toronto, 13 December, 1967

Honours and Activities

Assistant leader, Field trip No. 4,
"Tectonics in Two Cross-sections
through the Grenville Province",
Annual Meeting, Geological
Association of Canada, 18-30
August, 1967

Chairman, Geophysics Session,
Annual Meeting, Geological
Association of Canada, Kingston,
Ontario, 31 August — 2 September,
1967

Member, Programme Committee,
Canadian Centennial Conference
on Mining and Groundwater
Geophysics, Niagara Falls, Ontario,
22-27 October, 1967

Associate Editor, Canadian Centennial
Volume on Mining and
Groundwater Geophysics

Critical reviewer of paper for
Society of Exploration Geophysics,
Tulsa, Oklahoma

External examiner, Ph.D. thesis,
Department of Geology, Queen's
University, Kingston, Ontario

Member, Academic Committee,
Carleton University

P. A. HILL

Research

The distribution of detrital tin and
zircon in waters around the
British Isles

The structure of the Renfrew-
Arnprior area

The distribution of hexagonal and
monoclinic pyrrhotite and troilite
in sulphide assemblages of known
economic importance

Honours and Activities

University representative at first
British conference on the Sea and
Sea-Bed at Harwell (U.K. Atomic
Energy Commission) and Oxford
5-7 April, 1967

Awarded Visiting Leverhulme
Fellowship, Sedimentology
Research Laboratory, University
of Reading, July 1968

University representative at 7th

International Sedimentological
Congress, Resding, England,
10-12 August, 1967

Attended the 23rd International
Geological Congress, Prague,
Czechoslovakia, August —
September 1968

K. HOOPER

Research

Quaternary Foraminifera of Eastern
Canada

Publications and Papers

"Foraminiferal Data Processing",
presented at the International
Conference on Planktonic
Microfossils, Geneva, Switzerland,
September, 1967

J. M. MOORE

Research

Petrology and structure of Grenville
metamorphic and plutonic rocks,
eastern Ontario

F. K. NORTH

Research

The Cambrian System in Canada

Honours and Activities

Sessional Chairman, Gander
Conference, Geology along the
North Atlantic, Gander,
Newfoundland, 28 August, 1967

Editor, Regional Geology, Inter-
national Symposium on the
Devonian System, Calgary,
6-8 September, 1967 and Sessional
Chairman, 8 September, 1967

G. B. SKIPPEN

Research

The system $\text{CaO-MgO-SiO}_2\text{-C-O-H}$
at high temperature and pressures

Equilibria involving the exchange of
iron and magnesium among
coexisting silicates

The experimental control of gas
fugacities at high temperatures
and pressures

Publications and Papers

Igneous and metamorphic reactions

Petrology of Thor-Odin gneiss dome,
Monashee Mountains, British
Columbia

Publications and Papers

"Grenville Structure, Stratigraphy,
and Metamorphism, southeastern
Ontario; Northbrook — Ompah
area", *Guidebook, Geology of
Eastern Ontario and Western
Quebec*, Annual meetings,
Geological Association of Canada
and Mineralogical Association of
Canada, Kingston, Ontario, 1967

"Angular unconformity within the
Grenville Group in southeastern
Ontario", symposium on age
relations in high-grade
metamorphic terrains, Kingston,
Ontario, 1 September, 1967

Honours and Activities

Co-chairman of session on petrology,
Geological Association of Canada
meeting, Kingston, Ontario,
31 August, 1967

Conducted G. A. C. field trip in
Grenville province of eastern
Ontario, 3-4 September, 1967
(with H. R. Wynne-Edwards)
involving as equilibria, in
Researches in Geochemistry,
Vol. II, (ed.) P. H. Abelson,
New York, John Wiley & Sons,
1967, pp. 492-520 (with H. P.
Eugster)

Honours and Activities

Appointed member of the National
Advisory Committee on Research
in the Geological Sciences,
Subcommittee on Mineralogy,
Geochemistry and Petrology

W. M. TUPPER

Research

Geology and geochemistry of the
base metal deposits in the Bathurst
area, New Brunswick; the Rio
Tinto area, Spain; and Murdock-
ville, Quebec

The behaviour of the heavy and
precious metals in the secondary
geochemical cycle

Theory of stable isotope fractionation

Publications and Papers

"The Gallein Colorimetric Method

for Determining Tin: an
Evaluation", Carleton University,
Geological Paper 66-2, June 1967,
pp. 1-13

"Research in Geochemistry and
Mineral Deposits in Soviet Union,
International Relations and
Economic Studies Division,
National Research Council,
Report No. 49, October 1967,
pp. 1-26

Geochemistry of Silver, Zinc,
Arsenic, Antimony and
Molybdenum in Stream and
Spring Sediments, Keno Hill
area, Yukon Territory, Geological
Survey of Canada Maps 46-1965,
47-1965, 48-1965, 49-1965 and
51-1965

"Coding System and Field Card for
Geochemical Surveys", Pro-
ceedings, Symposium on
Geochemical Prospecting, Geo-
logical Survey of Canada, Paper
66-54, October 1967, p. 271

"Coding and Computer Analysis of
Geochemical Data", Seminar,
Institute of Mineral Raw Materials,
Kutna Hora, Czechoslovakia,
2 August, 1967

"Geochemical Research in Soviet
Union", presented to a Geo-
chemical Discussion Group,
Carleton University, 11 December,
1967

"University Programs and Research
in Geological Sciences in Soviet
Union", presented to Geoscience
Discussion Group, Ottawa,
10 January, 1968

"Programs in Applied Geochemistry
at Canadian Universities", Panel
Program, International Geo-
chemical Symposium, Colorado
School of Mines, Golden,
Colorado, 21 April, 1968

Honours and Activities

Guest Lecturer to the Atlantic
Universities, sponsored by the
Geology Division, Canadian
Institute of Mining and Metallurgy:
"Geology and Geochemistry of
the Sulfide Deposits in the Rio
Tinto District of Spain", Univer-
sity of New Brunswick, Frederic-
ton, 7 February, 1968; Mount
Allison University, Sackville,

8 February; St. Francis Xavier University, Antigonish, 12 February; Dalhousie University, Halifax, 16 February; Memorial University, St. Johns, 20 February. "Research on Mineral Deposits in Soviet Union", University of New Brunswick, Fredericton, 6 February; Mount Allison University, Sackville, 9 February; St. Francis Xavier University, Antigonish, 13 February; Dalhousie University, Halifax, 15 February; Memorial University, St. Johns, 19 February, 1968

Vice-Chairman, Ottawa Branch, Canadian Institute of Mining and Metallurgy, 1968-1969

R. W. YOLE

Research

Stratigraphy, sedimentology and paleontology of Sicker Group, Vancouver Island

Sedimentary petrology of Paleozoic rocks, southern and eastern Ontario

Sedimentation and development of St. Clair delta, Ontario

Publications and Papers

"Upper Paleozoic stratigraphy of Vancouver Island, British Columbia", International Meeting, Geological Association of Canada — Mineralogical Association of Canada, Kingston, 2 September, 1967

Upper Paleozoic stratigraphy of Vancouver Island, Geological Association Canada Proceedings, Vol. 20 (in press)

Mathematics

P. R. BEESACK

Publications and Papers

Secondary School Mathematics, Grade Twelve, Edition Two, Copp Clark, Toronto, 1967 XV + 455 pages (with W. B. MacLean, D. L. Mumford and D. W. Alexander)

"Taylor's formula and the existence of the n^{th} derivatives", *American Mathematical Monthly*, Vol. 74, 1967, pp. 980-986

Secondary School Mathematics Book Ten, Algebra, Edition Three, Copp Clark Toronto, 1968, XIV + 439 pages (with W. B. MacLean, D. L. Mumford and D. W. Alexander)

Secondary School Mathematics Book Eleven, Geometry, Edition Three, Copp Clark, Toronto, 1968, XIII + 397 pages (with W. B. MacLean, D. L. Mumford and D. W. Alexander)

Honours and Activities

Member of Special Investigating Committee on Moscow Travel Grants of Canadian Mathematical Congress Council, 1967-68

D. K. DALE

Research

A Proof of Stirling's Formula

Honours and Activities

Visiting Lecturer, Expo 67 Science Program, "A Glimpse of Matrix Algebra"

Consultant to Department of Manpower re "The Survey of Professional, Scientific and Technical Manpower 1967", and Canadian Broadcasting Corporation re "Measurement of Small Rights Music Usage"

Attended, "Symposium on Foundations of Survey Sampling", University of North Carolina, Chapel Hill, North Carolina

C. W. L. GARNER

Research

Compound Honeycombs in hyperbolic space

Pseudo-polyhedra in hyperbolic space

Foundations of non-Euclidean geometry

Publications and Papers

"Regular skew polyhedra in hyperbolic three-space", *Canadian Journal of Mathematics*, Vol. 19, 1967, pp. 1179-1186

"Vertices of Regular Honeycombs", lecture given to Geometry section, Mathematics Institute, Kiel, Germany, July 1967

"Regular Skew Polyhedra in Hyperbolic Space", lecture given at conference of geometers on "Foundations of Geometry", Oberwolfach, Germany, June 1968

Honours and Activities

Attended (by invitation) conference on "Foundations of Geometry" sponsored by the Deutsche Mathematiker Vereinigung in Germany, 15-20 May, 1967 and 1-8 June, 1968

Visitor at the Mathematisches Seminar der Neuen Universität, Kiel, Germany, 20 May — 31 July 1967

Elected member, Council of the Canadian Mathematical Congress

J. E. GRAHAM

Research

Preparation of paper "A study of Conodont Correlations in the Tully Limestone using Discriminant Functions" (with Dr. U. Mayr, University of Ottawa and Texaco Exploration Company)

Study of biases in estimation and testing in sequential multiple linear regression fitting techniques

Publications and Papers

"Evaluating the 1966 Agricultural Census" *Canadian Journal of Agricultural Economics*, Vol. 16, No. 1, 1968, pp. 45-53

"Rotation Sampling From a Finite Population", presented to Ottawa Mathematical Colloquium, 16 November, 1967

Honours and Activities

President, 1967-1968 Association of Statisticians (Ottawa)

Attended course "Nonlinear Estimation" presented by the Chemical Division of American Society for Quality Control, 19-20 April, University of Tennessee, Knoxville, Tennessee

Attended "Symposium on the Foundations of Survey Sampling" April 22-26, University of North Carolina, Chapel Hill, North Carolina

Statistical Consultant, Dominion

Bureau of Statistics, Ottawa
Appointed Special Research Officer, Sampling and Survey Research Division, Dominion Bureau of Statistics, Ottawa, June-August, 1968

K. HARDY

Research

A study of the properties of normal functions

Honours and Activities

Awarded Ph.D. (Mathematics), McGill University, 31 May, 1968

A. B. M. L. KABIR

Research

"Quantile Estimators of the Parameters of Extreme Value and Weibull Distributions", submitted for publication

"Estimation of Parameters of a Finite Mixture of Truncated Distributions", under preparation

"Estimation of Parameters of a Mixture of Two Poisson Distributions Based on Censored Sample", under preparation

Publications and Papers

"Insecticidal Effects of Sharigol and Pyrethrum Combination on Housefly", *Pakistan Journal of Scientific and Industrial Research*, Vol. 3, No. 4, 1960, pp. 216-218 (with M. S. Quraishi and A. A. Khan)

"Estimation of Parameters of a Finite Mixture of Distributions", to appear in the *Journal of the Royal Statistical Society*, Series B, Vol. 30, Part 2, 1968

Honours and Activities

Awarded a fellowship by the Canadian Mathematical Congress at the Summer Research Institute in Montréal in 1968

P. MANDL

Publications and Papers

"Analytic Determination of the Axial Velocity Through a Propeller Moving Perpendicular to its Axis",

presented at Advisory Group for Aerospace Research and Development Specialists' Meeting of Fluid Dynamics of Rotor and Fan Supported Aircraft at Subsonic Speeds, Goettingen, West German, 11-13 September, 1967 and published as Advisory Group for Aerospace Research and Development Conference Proceedings #22, Paper #8

Honours and Activities

Elected Fellow of the Canadian Aeronautics and Space Institute

E. J. NORMINTON

Research

An investigation of the diffusion and convection of heat and circulation due to known potential flow fields

A comparison of the Burgers' solution for the viscous flow past a circular cylinder with the Oseen solution for the same problem

F. H. NORTHOVER

Research

On the general solution of a given homogeneous linear integral equation. Application of integral equations to microwave interferometer theory. Asymptotic methods in mathematics

Finished final revision of book ms "Applied Diffraction Theory"

Started work towards another book tentatively entitled "Special Functions and Asymptotic Methods"

Honours and Activities

Appointed Director, Summer Research Institute of the Canadian Mathematical Congress

Consultant to A. C. Electronics Inc.

J. C. POLAND

Research

Further properties of finite groups with a given number of conjugate classes

Publications and Papers

"Two Problems on Finite Groups

With k Conjugate Classes", *The Journal of the Australian Mathematical Society*, Vol. 7, part 1, 1968, pp. 49-55

"Finite Groups with a Given Number of Conjugate Classes", *Canadian Journal of Mathematics*, Vol. 20, 1968, pp. 456-464

B. M. PUTTASWAMIAH

Research

Lifting of representation
On Froberius groups

Publications and Papers

"On Semi-groups of Quotients", *American Mathematical Monthly*, Vol. 74, No. 9, 1967, pp. 1062-1065

M. RAHMAN

Research

Completed work on "Discrete Relaxation Modes for a Hard-sphere Gas" and "Continuum Eigenfunctions for a Hard-sphere Gas"

Working on "Study of non-linear effects of Balescu-Lenard equation"

Publications and Papers

"Collisional Relaxation in a Hard-sphere Gas" *Physics Letters*, Vol. 25A, 1967, p. 705

R. L. ROSENBERG

Research

A boundary value problem in the conduction of heat

H. SCHIRMER

Research

Fixed point sets of homeomorphism
The degree of multi-valued functions

Publications and Papers

"Coincidence producing maps onto trees" *Canadian Mathematical Bulletin*, Vol. 10, 1967, pp. 417-423

Honours and Activities

Appointed Referent (reviewer) for Zentralblatt für Mathematik

J. H. THOMPSON

Research

Structure of Impulsive Causal Phenomena

K. S. WILLIAMS

Research

Estimation of the number of solutions of a system of equations defined over a finite field

Publications and Papers

"On a theorem of Niven",
Canadian Mathematical Bulletin,
Vol. 10, 1967, pp. 573-578

"On general polynomials",
ibid., pp. 579-583

"On extremal polynomials",
ibid., pp. 978-980

"A sum of fractional parts",
American Mathematical Monthly,
Vol. 74, 1967, pp. 978-980

"Pairs of consecutive residues of polynomials", *Canadian Journal of Mathematics*, Vol. 19, 1967, pp. 655-666

"The distribution of the residues of a quartic polynomial", *Glasgow Mathematical Journal*, Vol. 8, 1967, pp. 67-88 (with K. McCann)

Honours and Activities

Fellow, Summer Research Institute,
Canadian Mathematical Congress,
Queen's University, Kingston,
Ontario, May — August 1968

G. ZELMER

Publications and Papers

"On Quasi-metrizability", *Canadian Journal of Mathematics*, Vol. 19, 1967, pp. 1243-1249 (with M. Sion)

Physics

R. D. BARTON

Research

Measurements of the lifetimes of nuclear excited states in the sub-nanosecond range are being made and methods for extending present techniques to the picosecond regions are being developed

Position lifetimes in various materials

are being measured

Techniques for obtaining sub-nanosecond time resolution in experiments demanding the use of large scintillation counters are being developed

Publications and Papers

" μ -Atomic Lyman and Balmer Series in Ti, TiO₂ and Mn", *Physical Review Letters*, Vol. 18, No. 26, 26 June, 1967, pp. 1179-1183 (with D. Kessler, H. L. Anderson, M. S. Dixit, H. J. Evans, R. J. McKee, C. K. Hargrove, E. P. Hincks and J. D. McAndrew)

D. J. BROWN

Research

Universal Interaction Theory

Theory of inelastic two particle proton-proton scattering at high energies

Publications and Papers

"Modified Born Amplitudes for the Vector-Meson System", *Il Nuovo Cimento* Vol. 53, p. 376, 1968

"Evidence for a One-Nucleon Exchange Mechanism", *Physics in Canada*, Vol. 24, 1968, p. 75

"Unsuccessful Theories for the Process $p + p \rightarrow d + \pi^+$ ",
Nuclear Physics Seminar, Atomic Energy of Canada, Chalk River Nuclear Laboratories, April 1968

"High Energy Physics", Lakehead University, Port Arthur, November, 1967

A. L. CARTER

Research

Investigation into the production of gamma rays by inelastically scattered neutrons

Honours and Activities

Examiner, The Canadian Association of Physicists Secondary School Physics Prize Examination, at Carleton Physics Department April-May, 1968

K. W. EDWARDS

Research

Elementary Particle Physics —

studying the feasibility of
measuring $p+p \rightarrow d+\pi^+$, $d+p^+$
angular distributions

Publications and Papers

"Elastic Proton — Proton Scattering
at 90° and Structure within the
Proton", *Physical Review*
Vol. 159, 1967, p. 1138 —
Erratum Vol. 163, 1967, p. 1854
(with C. W. Akerlof, R. H.
Hieber, A. D. Krisch, L. G. Ratner
and K. Ruddick)

"Measurement of $p+p \rightarrow \pi^+d$ at
 90° and $5\text{Gev}/c$ ",
ibid., Vol. 165, 1968, p. 1442
(with K. Ruddick, L. G. Ratner,
C. W. Akerlof, R. H. Hieber,
and A. D. Krisch)

"Pion, Kaon, and Antiproton
Production in the Center-of-Mass
in High Energy Proton-Proton
Collisions", *ibid.*,
Vol. 166, 1968, p. 1353 (with
L. G. Ratner, C. W. Akerlof,
D. G. Crabb, J. L. Day,
A. D. Krisch and M. T. Lin)

"Pion, Kaon, and Antiproton
Production in the Center-of-Mass
in High Energy Proton-Proton
Collisions" (with C. W. Akerlof,
D. G. Crabb, J. L. Day,
A. D. Krisch, M. T. Lin and
L. G. Ratner) paper read by
C. W. Akerlof at the Topical
Conference on High-Energy
Collisions of Hadron, CERN,
Geneva, 15-18 January, 1968 and
published in CERN 68-7 Vol. II,
p. 262

Honours and Activities

Talk at AECL, Chalk River Nuclear
Physics Seminar, 23 November,
1967, "High Energy Proton-Proton
Interactions and Structure of the
Proton"

Talk presented to Carleton Physics
Club, "High Energy Physics",
18 January, 1968

J. E. HARDY

Research

Further examination of composite
systems as models for structure of
neutral mesons

Honours and Activities

Attended American Physical Society

Annual Meeting in Chicago,
29 January to 1 February, 1968

Attended symposium on Elementary
Particles, Northwestern University,
Chicago, 2 February, 1968

D. KESSLER

Research

Participated in a Chicago-Ottawa-Los
Alamos experiment at the Argonne
zero gradient Synchrotron. The
experiment consisted of a study of
isospin 1 boson with a missing
mass spectrometer. The experiment
lasted from September 1967 to
April 1968 and results are being
analyzed

L. RESNICK

Research

Quasidiffraction Scattering and
Selection Rules

Final state Interactions in the
Diffraction Model for Production
of Resonances

Partially conserved Currents Within
the Framework of Current Algebra

Factorization of the Amplitude for
Production of Resonances having
Nonzero spin

Deuteron Production in $p-p$
Collisions

Publications and Papers

"Quasidiffraction Scattering and
Selection Rules", paper read
before Eastern Canada Conference
on Nuclear Physics, Université de
Montreal, 1 June, 1968 and
Annual Congress of the Canadian
Association of Physicists,
University of Calgary, 7 June 1968

M. K. SUNDARESAN

Research

Investigations of Radiationless
Transitions in Muonic Lead
Isotopes

Studies on the reaction $p+p \rightarrow D^++$
Boson

The Relaxation Problem in Hard
Sphere Gas

Publications and Papers

"Collisional Relaxation in a Hard-

Sphere gas", *Physics Letters*, Vol. 25A, 1967, pp. 705-706, (with M. Rahman)

"The Reaction $P+P \rightarrow D+\pi^+$ ", *Il Nuovo Cimento*, (in press)

"Radiationless transitions in Muonic Lead", paper presented at the Eastern Canada Conference on Nuclear Physics, Montreal, 1 June, 1968 (with V. Srinivasan)

FACULTY OF ENGINEERING

M. J. BIBBY

Research

Electron beam welding and melting studies

A study of magnetic alloys for electronic memory devices

F. W. BLACK

Research

Investigation of some mechanisms involved in flame stabilization

G. W. BIGG

Research

Photoelastic and analytical investigations of geometrical non-linear behaviour of thin elastic shells with various end caps

Honours and Activities

Vice-Chairman, Ottawa Valley Section of the Society for Experimental Stress Analysis

Consultant — Maritime Systems Engineering, Department of Defence Production

W. H. BOWES

Honours and Activities

Attended two courses on Operational Research at the University of Birmingham. Two week tour of British universities and industries, July-August, 1967

Attended two-week seminar on numerical methods at the University of Calgary, May 1968

D. C. COLL

Research

Digital signal processing

Adaptive data transmission receivers
Short-haul, inter-computer data transmission

Publications and Papers

"Adaptive Receivers for Multipath Channels", *Ionospheric Radio Communications*, (ed.) K. Folkestad, Plenum Press, New York, 1968

Honours and Activities

Consultant in Communications, Defence Research Board

Student Activities Co-ordinator, Ottawa Section, IEEE

Chairman, 2nd Canadian DECUS Symposium

M. A. COPELAND

Research

Voltage-variable capacitors using metal oxide semiconductor techniques

Force measurements on small magnetic bodies

Studies on the hysteresis motor

Publications and Papers

"Force Measurements on Magnetic Reeds", *Institute of Electrical and Electronics Engineers Transactions on Magnetics*, June 1968

"Improved Hysteresis Machines", paper presented at seminar, Department of Electrical Engineering, University of Toronto, 22 April, 1968 (with M. A. Rahman)

Honours and Activities

Consultant on Magnetics, Northern Electric Research and Development Laboratories, Ottawa

G. D. CORMACK

Research

Electrode ablation studies in high current arcs

Space charge effects in plasma

Study of response of coaxial cable discontinuities

Publications and Papers

"Theory for Time Domain

Reflectometry Measurements", Northern Electric TM 8337-1-67, 11 December, 1967

"The Effect of Periodic Discontinuities on the Transfer Properties of a Transmission Line System", Northern Electric TM 8337-2-68, 30 April, 1968

E. B. FLETCHER

Research

The response of saturated clays to rapid loading

The creep characteristics of remoulded kaolin subjected to various stress fields

Publications and Papers

"Response of a Clay Sample to Low Magnitude Loads Applied at a High Rate", proceedings of the International Symposium on Wave Propagation and the Dynamic Properties of Earth Materials, Albuquerque, New Mexico, August 1967

Honours and Activities

Program Convener, Ottawa Valley Civil Engineers

J. B. FORREST

Research

The creep characteristics of remoulded kaolin under various stress fields

Development of an electronically controlled frigister system to be used for investigating the characteristics of adhesion between frozen soils and construction materials

The application of rock socketed caisson piles for transmission of very heavy building loads to bedrock

Publications and Papers

"Field Studies of the Consolidation Response of Peat", paper presented at the Annual Meeting, American Society of Civil Engineers, New York, 20 October, 1967 (with I. C. McFarlane)

Honours and Activities

Secretary, Ottawa Valley Civil

Engineers

D. A. GEORGE

Research

Automatic equilization of pulse-amplitude-modulation communication channels

Use of rough quantization and dither in the measurement of correlation coefficients and transforms

Publication and Papers

"Real-time Measurement of Auto-correlation and Spectral Function", Symposium on Communication Theory and Signal Processing, Kingston, 3 June, 1968

Honours and Activities

Consultant on Communication and Information Theory, Defence Research Telecommunications Establishment, Ottawa

Consultant on Signal Processing, Canadian Westinghouse Company Limited, Hamilton, Ontario

J. A. GOLDAK

Research

Electron beam welding and melting studies

Development of scanning x-ray radiography system

Honours and Activities

Chairman, Ottawa Valley Chapter of American Society for Metals

C. D. HOLMES

Research

Urban accident causations

Traffic accident reporting, data storage and retrieval systems

Honours and Activities

Research Consultant, Canadian Good Roads Association

President-elect, Carleton University Academic Staff Association

P. JANZEN

Research

A study of the response of a circular cylindrical shell to asymmetric

loading using the finite element method

- A theoretical and experimental analysis of a dome-like space truss to determine its response to concentrated loads applied at nodal points

Honours and Activities

Member, Society for Experimental Stress Analysis

R. J. KIND

Research

Ph.D. dissertation for University of Cambridge, "A Proposed Method of Circulation Control", July 1967

An investigation of wall-jet separation

J. KNIGHT

Research

Stability of circuits described by scattering parameters

V. MAKIOS

Research

Measurement of electron drift velocity in the plasma of a positive column using microwave interferometric techniques

Publications and Papers

"Investigations of Fast-Acting Electromagnetic Gas-Inlet Valves", Report IPP 1/68, 3/56 Institut für Plasmaphysik, Garching b. München, July 1967 (et. al)

D. A. J. MILLAR

Research

Experimental studies of the mean flow and pressure distribution and of the periodic flow induced by a rotating disk in an enclosure

Analytical and experimental studies of swirling flows in annular ducts

Effect of blade-loading on performance of highly loaded gas turbine blading

Development of computer programs for the analysis and design of turbomachine components

Honours and Activities

Member, National Membership Committee, Canadian Aeronautics and Space Institute

Member, Associate Committee on Propulsion, National Research Council

Faculty Adviser, Student Section, American Society of Mechanical Engineers

B. PAGUREK

Research

Development of iterative computational techniques for solving optimal control problems with constraints and singular solutions

Optimization of several complex industrial processes

Honours and Activities

Visiting Research Officer, National Research Council, Ottawa, Summer 1967

Member, Ottawa Hospital Council Subcommittee on Bio-Medical Engineering Technology

E. G. PLETT

Research

Theoretical and experimental studies of the energy losses to containing walls in a shock tube

A study of the effects of a strong electromagnetic field on the stability and limits of the detonation regime

Publications and Papers

"Cylindrical Langmuir Probe Performance in a Low Density Shock Tube", Avco Everett Research Laboratory, Research Report No, 292, January 1968 (with G. Sutton)

J. RUPTASH

Publications and Papers

"Projected Enrolment and Estimated Annual Operating Cost", paper prepared for the Board of Governors of the St. Lawrence College of Applied Arts and Technology, January, 1968

Honours and Activities

"Architectural Education and the Development of a School of Architecture", talk presented to the Ottawa Chapter of the Ontario Association of Architects, Ottawa, 26 October, 1967

Elected Academic Colleague for Carleton to Committee of Presidents of Universities of Ontario

Member, Technical Advisory Board to York University Committee on Canadian Transportation Studies, April 1968

G. T. SUTER

Research

Safety of reinforced concrete beams subjected to fatigue loading

Determination of moisture content in concrete

C. R. THOMPSON

Research

Characteristics of fluidic amplifier elements for use in mechanical logic and control circuits

Honours and Activities

Panel Chairman, "Unidentified Flying Objects", Canadian Aeronautics and Space Institute, Astronautics Symposium, Montreal, 11-12 March, 1968

W. E. WRIGHT

Research

Effects of strain hardening upon steel rigid frames subject to sidesway

Effects of inelastic beam buckling upon steel rigid frames subject to sidesway

Effects of strain hardening upon the moment-thrust-curvature relationships for short steel beam-columns

Recovery criteria in load tests of reinforced concrete beams

Analysis of precast concrete ribbed barrel roof structures

Publications and Papers

"Wind Pressure Measurements on a Full-Scale High-Rise Building",

Proceedings, International Research Seminar on Wind Effects on Buildings and Structures, University of Toronto Press, 1968 (with W. A. Dalglish and W. R. Schriever)

"Analysis of Unbraced Multistory Steel Rigid Frames", *Journal of the Structural Division, American Society for Civil Engineers*, Vol. 94, No. ST5, May 1968, pp. 1143-1163 (with E. H. Gaylord)

Honours and Activities

Member of the executive and Chairman of the Committee on Safety of the Ottawa Chapter of the Association of Professional Engineers of the Province of Ontario

Member, President's Committee on Safety, Association of Professional Engineers of the Province of Ontario

ADMINISTRATIVE STAFF

J. CARTER

Publications and Papers

"Comparative Technical Services statistics in academic libraries, 1964/65, 1965/66", *Canadian Library Association Conference*, Jasper, Alberta, 12 June, 1968

Honours and Activities

Director, Canadian Association of College and University Libraries (1968-1970)

Chairman, Statistical Research Committee, Canadian Library Association

H. G. GIFFORD

Honours and Activities

Member, Committee on the Consulting Services for Smaller Libraries, Canadian Association of College and University Libraries

Chairman, International Libraries Hospitality Committee, Canadian Library Association

Chairman, Nominating Committee, Ontario Council of University Librarians

E. LITMAN

Honours and Activities

Secretary, Arts Library Committee,
Canadian Library Association

A. G. TURNER

Honours and Activities

Member, Nominating Committee,
Library Association of Ottawa

This Report of the President of Carleton
University was printed
by National Printers Limited, Ottawa, Ontario



Two construction workers perch on scaffolding near the top of one of the three greenhouses of the Controlled Environmental Complex which is being built for use by the Department of Biology. By 1970, it is expected that 350 biology majors and 80 graduate students will use the complex which has display houses of tropical, desert and temperate climates for use as teaching aids.

